

SAND REPORT

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dated May 1998

Guide to Preparing SAND Reports and Other Communication Products

Version 1.0, September 2002

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ABSTRACT

This guide describes the Review and Approval process, Common Look and Feel requirements, and preparation and publishing procedures for communication products at Sandia National Laboratories. Samples of forms and examples of published communications products are provided.

PREFACE

This guide is the first publications guide at Sandia to take advantage of the wealth of material now available on the Web as a resource. Therefore, it is best viewed as an electronic document. If some of the illustrations are too small to view comfortably, you can enlarge them on the screen as needed.

The format is considerably different than that expected of a SAND Report. It was selected to permit the large number of illustrations and examples to be placed closer to the text that references them. In the case of forms, covers, and other items that are included as examples, a link to the Web is provided so that you can access the items and download them for use.

When you print 2-sided copies of the document, you will have two options for binding:

- Binding on top margin
- Binding on side margin

For more information, contact pwbritt@sandia.gov or creativearts@sandia.gov.

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INTRODUCTION

- I.1 Getting Help
- I.2 Sandia Support Services

This guide details the processes for producing a variety of communication products at Sandia National Laboratories. Figure I-1 shows the general publication development process. Because extensive supplemental material is available from Sandia on the internal Web or from external sources (Table I-1), the guide has been shortened to make it easy to find information that you need.

Table I-1. Useful References

STYLE AND GENERAL REFERENCE GUIDES	
<i>The Microsoft Manual of Style for Technical Publications</i>	Good guide to computer/software content.
<i>The Chicago Manual of Style</i>	Traditional academic press style guide. Most style guides are derived from it.
<i>U.S. Government Printing Office Style Manual</i>	The standard for many government agencies. http://www.access.gpo.gov/styleman/2000/browse-sm-00.html
<i>Elements of Style</i>	Classic writing instruction.
<i>Webster's Ninth New Collegiate Dictionary</i>	Also contains style guide.
<i>The American Heritage Dictionary</i>	Also contains style guide and usage notes for troublesome words.
<i>Guide to Grammar and Writing</i>	http://webster.comnet.edu/grammar/index.htm

SANDIA RESOURCES

Presentation Templates	http://www-irn.sandia.gov/organization/div12000/ctr12600/newctr12620/temps.html
Acronyms, Initialisms, and Abbreviations	http://infoserve.sandia.gov/electronic/sandsearch.html
Logos, corporate signature, and insignia	http://www-irn.sandia.gov/organization/div12000/ctr12600/newctr12620/logopg.html
Review and Approval	http://www-irn.sandia.gov/recordsmgmt/revapprov/revapprov.htm
External Web Publishing Review and Approval	http://www.irn.sandia.gov/RandA/RevApp.htm
Common Look and Feel Examples	http://www-irn.sandia.gov/organization/div12000/ctr12600/newctr12620/clfproducts.html

Bartleby.com is an excellent online resource for some of the more common reference books. Some agencies, such as the Nuclear Regulatory Commission, have their own style guides and unique document requirements, and authors should be sure that they are working with the latest editions.

I.1 Getting Help

All the Sandia organizations involved in the Review and Approval and publications process are available to assist you if you need help. Table I-2 lists some of these contacts. The Creative Arts Department (NM) or the Public Relations and Communication Arts Services Group (CA) are good sources of authoritative information on your publications concerns.

Table I-2. Useful SNL Contacts

Department	Phone	Mail Stop
New Mexico (505)		
Classification and Information Security	845-8356	0175
Creative Arts*	844-6416	0619
Patents and Licensing	845-9536	0601
Printing/Publishing*	845-8328	0617
Review and Approval Desk	845-8220	0619
Technical Library Imaging Services	845-9607	0899
Technical Library Reference Services	845-8493	0899
Video Services*	844-7167	0650
* http://www-irn.sandia.gov/organization/div12000/ctr12600/dpt12610/labcomm.html		
California (925)		
Classification and Information Security	294-2202	9021
Patents and Licensing	294-3690	9031
Printing/Publishing	294-4555	9131
Public Relations and Communications Services Group http://www.ran.sandia.gov/CaLabCom/LabComCA.html	294-4555	9131
Review and Approval Desk	294-2202	9021
Technical Library Reference Services	294-3442	9211
Video Services	294-4555	9131

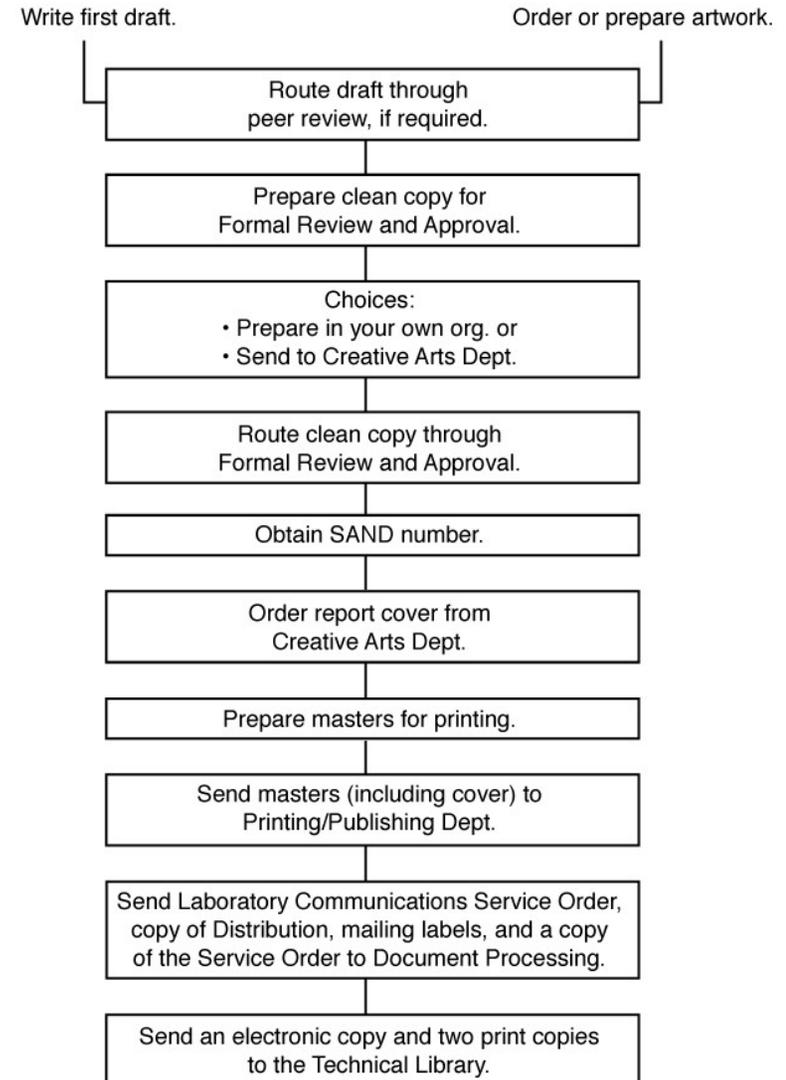


Figure I.1. Flowchart for Creating SAND Reports.

I.2 Sandia Support Services

The Creative Arts Department (NM) (or Public Relations and Communications Services Group in CA) can assist you in taking your publication from conception through publication. Their staff can provide writing and editing support and assist you in preparing the document for submission to Review and Approval, incorporation of Common Look and Feel elements, and proper marking for various kinds of release. They can advise you on printing arrangements, quality checks, and distribution. The illustrators are experienced in producing high-quality artwork for everything from traditional SAND Reports to electronic publications. They will be happy to consult with you to determine the right look and the right medium for your message.

To obtain writing or design services, prepare Form SA 1820-A (Figure I-2)(Sandia/CA uses an online form), attach your draft, and send or hand-carry the request to the Customer Service Desk in Creative Arts. The online form for the CA laboratory is located at:

<http://www.ran.sandia.gov/CaLabCom/LabComCA.html>

Classified artwork and disks must be hand-carried to the Creative Arts Department and proper documentation of classified information must be included. On Form SA 1820-A, fill in the Complete for Classified Work section.

The Printing/Publishing Department provides traditional and digital photography for authors who would like to have professional photographs taken for their reports. Color photographs intended for black-and-white reproduction should be checked to determine whether they will reproduce properly.

Professional video services are available in both California and New Mexico to provide script writing and production assistance.

Technical Library Imaging Services can assist with the imaging, final electronic distribution, and use of SAND Reports. The Technical Library maintains the archival copy of SAND Documents (CPR400.2.13.14 Att. A) to which authors can point colleagues, customers, or Web pages.

Technical Library Reference Services can assist authors with research, citation verification, bibliographic formatting, etc. Contact your reference librarian for assistance:

<http://infoserve.sandia.gov/services/reflib.html>

1. POLICIES AND REQUIREMENTS

- 1.1 Department of Energy Directives
- 1.2 Copying/Printing of Drafts and Masters
- 1.3 Policies for Protecting Official Information
- 1.4 Physical Protection of Documents
- 1.5 References to Sandia
- 1.6 Funding Statement
- 1.7 Copyright Statement
- 1.8 Disclaimer of Liability
- 1.9 NNSA
- 1.10 General Provisions of the Government Printing & Binding Regulations

1.1 Department of Energy Directives

Department of Energy (DOE) Directive G 241.1-1A provides the requirements for preparing scientific and technical information. DOE Directive 475.1-1A (Section 6) requires classification review prior to release of all public release or widespread internal release of Sandia information.

1.2 Copying/Printing of Drafts and Masters

In accordance with DOE and the Joint Committee on Printing, all printed or copied documents **must** be published through the Sandia Printing/Publishing Department (NM) and the Communication Arts Department (CA).

Printing using more than one color requires DOE approval. Promotional materials require review for adherence to Common Look and Feel guidelines (Section 3). These are provided on

Review and Approval (R&A) Form SF 1008-RA, Section 9. Color copies do not require approval.

The author is responsible for obtaining necessary permissions to reprint copyrighted material (refer to Section 6.1).

Drafts may be reproduced through the Printing/Publishing Department or by Sandia copiers. Contractors may produce copies of draft SAND Reports. All draft copies must be labeled DRAFT in both the headers and footers on every page.

NOTE:

You may be subject to severe personal penalties if you do not adhere to the printing and copying policies. If you have a printing or copying question, you are encouraged to contact the Sandia Printing & Publishing Department (845-8328).

1.3 Policies for Protecting Official Information

The protection that must be applied to different types of communication products includes the following:

Physical protection while the communication product is being produced.

Special markings applied to the communication product.

Distribution limitations corresponding to the markings.

Unlimited Release – Information that requires no special protection and has no distribution limitations.

Unclassified Controlled Information (UCI) – Unclassified but sensitive information, e.g., Unclassified Controlled Nuclear

Information (UCNI), Export Controlled Information (ECI), and Official Use Only (OUO). UCI requires physical protection and marking with limitation statements. For a complete list, refer to <http://www-irn.sandia.gov/ADC/1handbook/class/cover010.html>.

Classified – Classified information requires physical protection during preparation (accountability) and appropriate security markings.

Refer to Appendix A for a quick reference to the markings for UCI and classified reports.

1.4 Physical Protection of Documents

Physical Protection of Unclassified Controlled Information

Maintain physical control of document at all times while working on it. Never leave it unattended in an uncontrolled area.

Store document in a secure container (locked desk or equivalent) or controlled office area or facility (vault) when not in use.

Destroy working papers such that they cannot be reconstructed (e.g., shredding).

Use cover sheet SF 1008-UCN (for UCNI) or SF 1008-UCA (for UCI) on document at all times.

Physical Protection of Classified Documents

Destroy working papers such that they cannot be reconstructed. (Use a shredder, for example.)

Make sure that all personnel with access to classified documents have the appropriate security clearance and a need to know.

Maintain physical control of document at all times. Store classified documents in a DOE-approved locked safe or vault when not in use.

Use properly marked front and back cover sheets on each copy of the draft document and on the masters.

1.5 References to Sandia

Use the official corporate name, Sandia Corporation, in legal and official situations (e.g., leases, contracts, and formal documents).

In *formal* reference, Sandia National Laboratories, Sandia National Laboratories/New Mexico, and Sandia National Laboratories/California are acceptable. “Albuquerque” and “Livermore” are no longer used to refer to the different sites.

In *informal* reference, Sandia, Sandia/NM, and Sandia/CA are acceptable. SNL/NM and SNL/CA may be used when brevity is required. The facilities may also be referred to as the “California laboratory” or the “New Mexico laboratory.”

1.6 Funding Statement

If the work was funded by the DOE, the DOE-Sandia funding statement must appear on the cover and credit the current contract number as follows:

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy’s National Nuclear Security Administration under Contract DE-AC04-94AL85000.

If another government agency or company contributed all or part of the funding, appropriately indicate that on the title page.

Covers provided by Creative Arts contain the DOE funding statement.

Reference:

<http://www-irn.sandia.gov/organization/div12000/ctr12600/newctr12620/resource.html>

1.7 Copyright Statement

DOE requires the following on all submissions to publishers and on copyright transfer forms:

The submitted manuscript has been authored by a contractor of the U.S. Government under contract No. *(insert the contract number)*. Accordingly, the U.S. Government retains a nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or allow others to do so, for U.S. Government purposes.

Refer to Section 6.1 for more guidance on copyright issues.

1.8 Disclaimer of Liability

This statement is used for public communications conveying information that might be relied on by the public for research, product development, experiments, etc.:

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government, nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors, or their employees, make any warranty, express or implied, or assume any legal liability or responsibility for the accuracy, completeness, or usefulness

of any information, apparatus, product, or process disclosed, or represent that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government, any agency thereof, or any of their contractors or subcontractors. The views and opinions expressed herein do not necessarily state or reflect those of the United States Government, any agency thereof, or any of their contractors.

This statement is included on the second page of SAND Report covers prepared by the Creative Arts Department.

Reference:

<http://www-irn.sandia.gov/organization/div12000/ctr12600/newctr12620/resource.html>

1.9 NNSA

Appropriate first use is “U.S. Department of Energy, National Nuclear Security Administration (NNSA).” Thereafter use either the acronym, the name spelled out, or “the Administration.” See Section 3, Common Look and Feel, for instructions on how to handle the NNSA logo.

1.10 General Provisions of the Government Printing & Binding Regulations

Commercial Advertisements – SAND Reports are considered Government Publications (<http://www-irn.sandia.gov/organization/div12000/ctr12600/dpt12630/doftermnew.html-gp>), and as such, they shall not contain any advertisement inserted by or for any private individual, firm, or corporation; or contain any material that implies in any manner that the

Government endorses or favors any specific commercial product, commodity, or service.

Art Signatures – Printed representations of original works of art included in SAND Reports **may** include the signature if it is not out of proportion or relation to the design. Signatures of technical illustrators, designers, typographers, or layout artists **shall not** be included in the printed representations.

Courtesy Credit Lines – Courtesy credit lines **are** permissible **only** for copyrighted materials that are contributed or loaned by nongovernmental parties for inclusion in SAND Reports. Such credit lines shall be subordinate in size of type to that of both the general text of the document and that used for legends for illustrations. When all the material contained comes from a single nongovernmental source, credit lines **may** be included within the general text of the document **but not** in a separate paragraph specifically displayed for the purpose of acknowledging credit.

Publication Bylines – Publication bylines **may** be provided **only** to the authors of the articles appearing in the SAND Report, and to the photographers who have originated any pictures contained therein. Such bylines **shall** be printed in exact juxtaposition with the articles or pictures that they have created.

Publication Mastheads – Printed mastheads **shall** identify the Department of Energy and the name of specific Field Office issuing the publication together with the name of the head of the Department of Energy and the name of the head of the Field Office issuing the publication. Additional names **shall** include **only** the names of the executive or managing editor, sports editor, feature editor, photo editor, and art editor, or their editorial equivalent officers by whatever title they are identified. Any deviations from these requirements **must** be approved by

the Joint Committee on Printing of the United States Congress. (See Printing, Publishing and Copying Corporate Process Requirement No. CPR400.2.13.15: <http://www-irn.sandia.gov/policy/infrastructure/CPR400.2.13.15.html>.)

Color Printing Criteria – The use of color printing in SAND Reports **is permitted** subject to review and approval <http://www-irn.sandia.gov/recordsmgmt/revapprov/revapprov.htm> by the Department of Energy.

Illustrations – Illustrations **may** be used in SAND Reports if they:

- Relate entirely to the transaction of the business of Sandia and are in the public interest,
- Relate directly to the subject matter and are necessary to explain the text,
- Do not serve to aggrandize any individual,
- Are in good taste and do not offend proper sensibilities,
- Are restricted to the minimum size necessary to accomplish their purpose, or
- Illustrate employees actually engaged in an act or service related to their official duties.

2. REVIEW AND APPROVAL

- 2.1 Formal, Organizational, and Individual Review and Approval
- 2.2 SAND Numbers for New Communication Products
- 2.3 Review and Approval Procedure
- 2.4 Reuse of previously Approved Materials

2.1 Formal, Organizational, and Individual Review and Approval

The Review and Approval Process ensures that information released is professional, reviewed for classification, and marked appropriately. Every communication product going outside Sandia, as well as internal communications with widespread distribution, is considered an official Sandia information product and requires appropriate review and approval. Even if only one Sandia employee co-authors a report with contractors, the report is considered a Sandia report. A contractor report documents work done under a Sandia purchase order by an external entity such as a consultant or a company and is authored by that entity.

NOTE:

SAND numbers are issued at the final stage of Review and Approval. Communication products go through Review and Approval without SAND numbers.

See the [Choosing a Review Process](#) web page for detailed Review and Approval instructions.

The three Review and Approval processes used at Sandia are the following:

Formal Review and Approval – Information released outside Sandia is assigned unique SAND numbers and must be reviewed. The Review and Approval process and the assignment of SAND numbers are coordinated through the Recorded Information Management Department. (At Sandia/CA, Public Relations and Communications coordinates these functions.) The approval process is documented using [R&A Form SF 1008-RA](#).

Organizational Review and Approval – Less formal external releases are not assigned SAND numbers and may be processed using Organizational Review and Approval. These releases must be approved by organizational management and a cognizant Derivative Classifier (DC). It is recommended that the originating organization consult with the Patent and Licensing Center and the Classification and Information Security Department before the information is released. Documentation of approval is also recommended, and management may use the desired sections of [R&A Form SF 1008-RA](#) for that purpose.

Individual Review and Approval – Content originator may approve the release of the information with manager consent and assistance from an ADC. Documentation of approval is recommended, and management may use the desired sections of [R&A Form SF 1008-RA](#) for this purpose.

Reference:

“Corporate Review and Approval for Communication,”
<http://www-irm.sandia.gov/recordsmgmt/revapprov/revapprov.htm>

2.2 SAND Numbers for New Communication Products

SAND numbers (e.g., SAND2001-1234) are used to track official releases of Sandia information. Official releases are information that reflects or represents policies, operations, and activities. SAND numbers consist of the year, the sequential number of the document, and, when appropriate, a suffix for the type of communication product. SAND numbers for the years 2000 and beyond use four digits for the year.

SAND numbers are issued at the final stage of Review and Approval by the R&A Desk. When the Review and Approval form, R&A SF1008 is filled out, the space for the SAND number is left blank. Table 2-1 lists the types of communications products and an example of the appropriately suffixed SAND number for each.

Table 2-1. Types of SAND Documents

Document Type	Suffix	Example
Abstract (brief or extended)	A	SAND2001-1112A
Conference Paper	C	SAND2000-1112C
Electronic Posting	W	SAND2000-1112W
Journal Article	J	SAND2000-1112J
SAND Report	None	SAND98-1112
Other reports, presentations, posters, exhibits, displays, videos, brochures, internal memoranda, newsletters, fact sheets	P	SAND2002-1112P

2.3 Review and Approval Procedure

Always check the Review and Approval Web Page for process instructions:

1. The author ensures that peer reviews are completed and corrections are completed. The author prepares a [Routing Slip SA1805-A](#) listing all individuals and organizations that must sign R&A Form [SF 1008-RA](#). The primary author's name is listed last so that the package will be returned when R&A is completed.
 2. The author obtains all necessary DOE/agency pre-approvals.
 3. The author obtains all necessary contractual or outside agency approvals.
 4. The author fills out the appropriate sections of R&A Form SF 1008-RA. The author provides the complete names of author's and all co-authors (including their complete middle names).
 5. Management and Derivative Classifier (DC) approval is obtained.
 6. The author prepares the document package. This consists of a pocket folder, with the draft document or viewgraphs in the right pocket and R&A Form SF 1008-RA in the left. Remove the R&A instructions and place the form in a folder for routing.
- IF** the communication product is a conference paper or journal article, include one additional copy. After the approvals have been obtained, the R&A Desk will sign off

on R&A Form SF 1008-RA and forward the copy to the Technical Library and Office of Scientific and Technical Information (OSTI). The author will also need to forward an electronic version of the information to the Technical Library via email or disk. (See [Section 4.1, Submitting SAND Documents for Record Copy and Electronic Access.](#))

- ❑ **IF** the communication product is a SAND Report, a title page and a distribution list (including housekeeping copies) are required prior to review by the R&A Desk (NM or CA).
 - ❑ **IF** the communication product does not fit in a folder (e.g., videos, displays), the author includes any relevant documentation (Web tree, scripts, layouts, pictures of displays, etc.) in the folder and sends the item with the folder. If that is not practical, contact the Classification and Information Security Department to determine how the item can be reviewed.
7. The author marks the package with appropriate classification and access restrictions. To ensure proper physical protection, appropriate markings and legends should be placed on the draft copy as soon as possible.
- ❑ **IF** the document is classified, the author puts it in a classified folder and envelope with the appropriate cover sheet. It may be circulated within the Tech Area.
 - ❑ **IF** the document originates outside the Tech Area or is sent outside the Tech Area, it is prepared in accordance with the wrapping requirements for transmittal of classified material.
8. Staple the folder together at the top and right side to secure the contents or use strong rubber bands around the folder in both directions. Place bulky documents in an envelope.

NOTE:

In CA, the Review and Approval package is submitted to the R&A Desk, where it is logged in and a SAND number is assigned. It is then passed to the SNL/CA Classification Office where it is reviewed and held until the package is complete, including Patent Review. The R&A Desk then logs out the package and returns it to the author or to Communication Arts as directed by the author.

9. If the DC or the author believes there is a patent interest or caution associated with the information, the Patent and Licensing Center (NM) must review the work prior to submittal to classification. If the DC and the author agree that the information is not a likely candidate for patent review, they can bypass Patents approval. The author is still responsible for supplying a final copy (including the assigned SAND number) of the information to the Patents and Licensing Center in NM or the Patent Agent in CA.

NOTE:

The Prime Contract requires that inventions be reported and gives the government and Lockheed Martin certain rights.

It is the author's responsibility to notify Patents and Licensing in NM or the Patent Agent in CA.

10. The package is mailed or hand-carried to the Classification and Information Security Department (NM). The contents are reviewed, and the classification assigned by the originating organization's DC is affirmed. The classification reviewer signs-off.

- ❑ **IF** there is disagreement about the assigned classification, the reviewer will work with the DC and the author to arrive at an appropriate classification.

11. Reviews for Promotional Communications will be arranged by the R&A Desk (NM) or the Communication Arts Department (CA). Promotional communications—those that promote Sandia capabilities—must be reviewed for adherence to Common Look and Feel guidelines by the Creative Arts Department (NM) or the Communication Arts Department (CA). All publications distributed outside Sandia that are printed in color or those internal publications printed in two or more inks require review.

NOTE:

Use properly marked front and back cover sheets on each copy of the draft document and on the master. For Secret, use Form SF 704 for the front cover and Form SF 2900-HE or -EA for the back cover; for Confidential, use Form SF 705 for the front cover and Form SA 2900-HEA for the back cover.

NOTE:

*SAND Reports and internal release products that use color **copying rather than color printing** do not need promotional communications review. If you have questions or concerns, contact the Printing/Publishing Department for assistance.*

12. The R&A Desk (NM) ensures that the reporting and review requirements are met.
13. When the Review and Approval process is complete, the R&A Desk (NM) assigns a SAND number.

- ❑ **IF** the communication product meets DOE reporting requirements, the Review and Approval Desk section of R&A Form SF 1008-RA is signed off.
- ❑ **IF** changes are required to the communication product, these are noted in the Review and Approval Desk section, and the author is responsible for incorporating them before release.

14. The R&A Desk (NM) returns the package to the point of contact indicated on the routing slip. (Hard copy journal articles and conference papers are sent the Technical Library. SAND Reports are returned to the author.)

15. The author checks the copy of the R&A Form SF 1008-RA and the draft report for reviewer comments. The author makes any necessary revisions.

16. R&A Form SF 1800-RA is filed at the Technical Library.

NOTE:

Refer to Section 5 for information on how to prepare the communication product for printing and how to submit it to the Printing/Publishing Department. Section 4.1 explains how to submit electronic files to the Technical Library for Web use.

17. The author sends an electronic copy of the communication product to the Technical Library. (A submittal form is included in the packet returned from Review and Approval.)

For further information on the R&A process, see the following Web site:

<http://www-irn.sandia.gov/recordsmgmt/revapprov/RevApprov.html>

2.4 Reuse of Previously Approved Materials

Sometimes the content of an approved communication product is reused (repurposed) in another form, such as when a conference paper is published as a journal article or SAND Report. In some instances, the communication product might be directed to a different audience than that for which it was originally approved.

IF no substantial technical changes were made and the new audience is consistent with original distribution limitations, the communication product does not have to go through Formal Review and Approval.

Instead, the author prepares a memorandum for the R&A Desk that states the SAND number of the original document and explains the new circumstances.

IF the document is going to be a SAND Report, the author attaches a copy of the R&A Form [SF 1008-RA](#) along with a copy of the title page and distribution list. The new SAND number will be the original SAND number plus the original suffix, such as C for a conference presentation or J for a journal article.

IF a communication product is going to be a SAND Report and contains substantial technical changes or is directed to a different audience not consistent with original distribution limitations, it must go through Formal Review and Approval. The R&A Desk will assign a new SAND number, or the author may request that the original SAND number be used. A statement should then be added on the cover and title page stating that the new communications product supersedes the old (Figure 2-1).

Cover:	Title Page:
SANDIA REPORT SAND2001-0127 Unlimited Release Printed July 2001	SAND2001-0127 Unlimited Release Printed July 2001
Supersedes SAND95-1234C dated April 1995	Supersedes SAND95-1234C dated April 1995

Figure 2-1. Supersession Statement on Cover and Title Page.

When an abstract is developed into any type of communication product, Formal Review and Approval is required, and a new SAND number is assigned.

To disseminate an internal memorandum outside Sandia, format it into an official SAND Report and send it through full Review and Approval.

Changed and Revised Content

A revised document is updated or expanded with new information and requires another Formal Review and Approval. It may retain the original SAND number with the designation “Revised” and a supersession statement (Figure 2-1) on the cover and title page. Alternatively, a new SAND number may be obtained from the R&A Desk.

A changed document is substantially different from the original and is treated as a new document and must go through another Formal Review and Approval.

Reprints

When the scope of the distribution or audience for a document is different than that originally approved but no substantial technical changes were made, the document is published as a reprint. On the title page, one line below the “Reprinted” date, note the following:

The only change to this document is the distribution limitation, which has changed from _____ to _____.

Informal reprints are reproduced on office copiers (the Printing/Publishing Department is recommended for jobs consisting of more than 5000 sheets of paper) without updating the cover, title page, and distribution page. If there are no substantial changes to the content or distribution limitation, no Review and Approval is required. A formal reprint is recommended when more than 10 copies are required.

When a *working* copy is to be sent outside Sandia, the original cover, title page, and distribution are used. The Printing/Publishing Department should be used so that the cover is on Sandia's preprinted cover stock.

A **formal reprint** may be done if there were no changes to technical content or to the distribution limitation. The cover,

title page, and distribution page of the document are updated. Minor corrections of typographical errors or simple word changes may be made. A notice that this is a second or subsequent printing and the reprint date replaces the original print date on the cover and appears on the title page under the last print date (Figure 2-2). The new distribution list is added to the old. Reprints retain the original SAND number.

<p>Cover:</p> <p>SANDIA REPORT SAND2000-1056 Unlimited Release Reprinted January 2001</p>	<p>Title Page:</p> <p>SAND2000-1056 Unlimited Release Printed October 2000 Second Printing, January 2001</p>
<p>Distribution: (Follows original distribution list) Second Printing, January 2001 30 MS 0159 John Wallace, 9313</p>	

Figure 2-2. Text, Cover, and Distribution Changes to Reprints.

3. COMMON LOOK AND FEEL

- 3.1 Review of Promotional Communication Products
- 3.2 Sandia Corporate Signature, DOE Seal, NNSA Logo, Lockheed Martin Logo
- 3.3 Corporate Image – Text
- 3.4 Corporate Image – Design Elements
- 3.5 Presentation and Web Templates

This effort, managed by the Public Relations & Communications Center, is to convey a consistent professional image and unified corporate look on all Sandia's promotional communications intended for public releases. Promotional communications products are created to attract business, promote capabilities, convey general corporate information, or generate good will.

NOT considered promotional materials are SAND Reports conveying scientific and technical information, project-level and program-level presentations and reports, and Web-based collaborations consisting primarily of scientific and technical works. Items requiring Common Look and Feel include fact sheets, fliers, brochures, displays/exhibits, video, and presentations.

3.1 Review of Promotional Communication Products

Before committing funds for product design, confer with one of the following to develop a design that is consistent with Common Look and Feel guidelines (they also later approve design concepts in the Formal Review and Approval process):

Loraine McCutcheon (NM), MS 0619, (505) 845-8433
Holly Stryker (CA), MS 9131, (925) 294-2126

Approval of Common Look and Feel elements and DOE approval are required for promotional communications and are provided for on R&A Form SF 1008-RA, Section 9. Contact the Printing/Publishing Department (NM) or the Communication Arts Department (CA) to initiate these reviews.

NOTE:

Because of the lead time required for DOE approval, the communication products should be submitted to the Printing/Publishing Department (NM) or Communication Arts Department (CA) at the beginning of the R&A process.

3.2 Sandia Corporate Signature, DOE Seal, NNSA Logo, Lockheed Martin Logo

Sandia's signature (the thunderbird insignia and the Sandia National Laboratories logo) is a trademark symbol used to establish and enhance name recognition among customers and the public. Using the Sandia signature consistently, properly, and prominently on all communication media is extremely important.

NOTE:

Logos and signatures are available electronically at the following location:

<http://www-irn.sandia.gov/organization/div12000/ctr12600/newctr12620/logopg.html>

Guidelines

The Sandia signature consists of two elements: the thunderbird insignia and the Sandia National Laboratories logotype. The logotype consists of a unique typeface and is not to be replaced by other typefaces. (Official Sandia blue is custom ink match Pantone 312; and #00CCFF for HTML.)

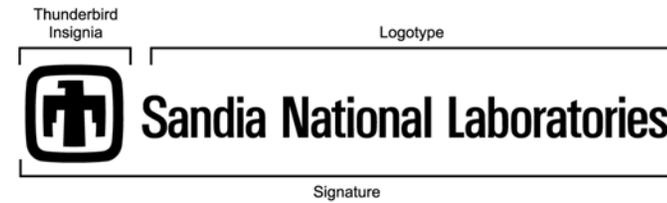
A document header or footer may not include the Sandia logo, departmental logos, or the words “Sandia National Laboratories” on internal pages of a report as part of the document design. Using the Sandia logo on internal pages violates Laboratory Communications policy.

Sandia has agreed to use the DOE insignia (seal) on all printed products released to the public. The DOE seal is normally used in conjunction with the standard DOE acknowledgment statement and the Sandia signature. The NNSA Logo is shown below. (See 1.9 NNSA.)



The Sandia corporate signature must appear on the front and back covers and spine (if applicable) of any Sandia documents released to external audiences (including SAND Reports). It must also appear on all presentation materials. Sandia’s corporate signature must always be reproduced from approved digital files.

The corporate signature has only two configurations: horizontal or stacked. The position and size of the thunderbird insignia in relation to the logo are fixed and must not be altered.



The white space left around the corporate signature must be ½ the height of the thunderbird insignia.

Posters released externally should incorporate Common Look and Feel elements, the DOE-Sandia Funding Statement (Section 1.6), and Sandia and DOE logos.

3.3 Corporate Image – Text

The following quotes and slogan may be used to reflect Sandia’s image as a primary provider of engineering and science to ensure national security:

“...exceptional service in the national interest.” (quote from Truman letter)

“We are a national Security Lab” (from Strategic Objectives)

Ensuring the Nation’s Security – Yesterday, Today, and Tomorrow

3.4 Corporate Image – Design Elements

The graphic elements presented here may be used to reinforce Sandia’s image visually. They can be used individually or in combination to provide a unifying look to communications:

Sandia corporate signature

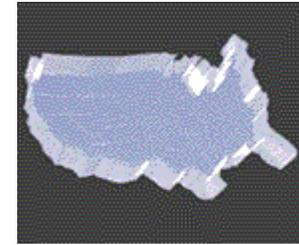


Red, white, and blue color theme (with gold as an accent color)
(Refer to Web site for precise color values)

American flag – Stylized treatment or photos are acceptable



“...exceptional service in the national interest.” Use text and punctuation as shown here. Font, style, and color may vary.
United States geographic outline—can be combined with flag,



sky background or backdrop.



NOTE:
The Review and Approval for Communication Web site has examples of the design elements and their requirements:
<http://www-irn.sandia.gov/organization/div12000/ctr12600/newctr12620/resource.html>

3.5 Presentation and Web Templates

Templates for presentations that incorporate Common Look and Feel elements are available at the following location:

<http://www-irm.sandia.gov/organization/div12000/ctr12600/newctr12620/temps.html>

Web site templates incorporating Common Look and Feel elements are available from the following location:

<http://www-irm.sandia.gov/RandA/templates.htm>

4. PREPARATION, PRINTING, AND DISTRIBUTION

- 4.1 Submitting SAND Documents for Record Copy and Electronic Access
- 4.2 Printing and Distribution
- 4.3 Submitting Work for Printing and Distribution

4.1 Submitting SAND Documents for Record Copy and Electronic Access

The Technical Library is responsible for the record copy of all SAND documents (CPR400.2.13.14 Att. A). After a SAND document has been signed off through Review and Approval, submit one electronic and one print copy to the Technical Library. Abstracts, journal articles, and conference papers should be submitted the same way. Electronic access to SAND documents is made available through various services, depending on classification and limitations, including the Technical Library's online catalog, SANDSearch, and Web File Share.

Abstracts remain on line after publication of the complete document, so updated abstracts should be sent to the Technical Library. Conference papers should also be updated if changed. Substantially changed abstracts and conference papers are subject to additional Review and Approval. The original SAND number should be noted if there has been subsequent Review and Approval. A conference paper should also include the title and date of the conference publication as well as the page numbers of the conference paper within the proceedings, if available.

NOTE:

Notify the Technical Library whenever a Patent Caution is removed from a conference paper or journal article so that it can be released to requesters.

The Technical Library prefers to receive PC-compatible electronic files in Adobe Acrobat® PDF, MS Word®, WordPerfect®, PowerPoint®, Rich-Text Format, or other formats supported by the common operating environment for Sandia computers. Files may be submitted to: Technical Library Reports Receiving at MS0899 on floppy, Jaz™, CD-ROM, or Zip® disks. The files may also be sent electronically as follows:

1. Placed in the Public Drop Zone folder under: SANDDOCS
2. By email to: SANDDOCS@SANDIA.GOV
3. Send the Web File Share URL to: SANDDOCS@SANDIA.GOV

Be sure to reference the SAND number and file type on all submittals.

- ❑ **IF** some graphics are still in hardcopy, send those pages along with the electronic file. The Technical Library will scan the graphics and add them to the file.
- ❑ **IF** only a hardcopy exists, send a copy (preferably unbound) to the Technical Library (Reports Receiving, MS0899), and it will be scanned.

NOTE:

An additional two hardcopies are sent to the Technical Library as indicated on the distribution list (Figure 5-10).

4.2 Printing and Distribution

Printing from Electronic Files

A SAND Report can be printed from paper masters or electronic files transmitted directly to the Sandia Printing/Publishing Department. Files can originate on PC, Macintosh®, or UNIX® systems, but they must be PostScript™ (files with .pdf extensions are acceptable for UNIX®). PostScript™ files are not manipulated at the print shop and are printed as you have them set up. Native files from software packages such as Acrobat®, CorelDRAW™, Microsoft Office®, FoxPro®, Illustrator®, Photoshop™, PageMaker®, QuarkXpress®, VersaTerm Pro, and Access® may be manipulated for best results. QuarkXpress® is the preferred publishing software, especially for color (PowerPoint®, Illustrator®, and Photoshop™ also work well).

Unclassified files may be transmitted over the SRN via the Corporate Dropzone. Table 4-1 lists the acceptable media for delivery of files to the print shop.

Table 4-1. Acceptable File Media

UNCLASSIFIED FILES	
PC	SRN transfer, floppy, Zip®, Jaz™, CD
Macintosh®	SRN transfer, floppy, Zip®, Jaz™, CD
UNIX®	SRN transfer

CLASSIFIED FILES

PC or Macintosh®	Properly marked Jaz™ disks only
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Distribution

Several options are available for distribution of documents, and any of them or a combination of them is acceptable.

Internal Distribution – Distribution within Sandia and the DOE Complex (NM, CA, Pantex, and other sites) is considered internal. A name and mail stop are required. Document Processing usually provides next-day delivery. Transportation Services can distribute bulky items or those in several boxes. This takes four to five days and possibly as long as a week.

External Distribution – Distribution outside the DOE complex is external distribution and requires full addresses. Bulk mail may be used for some domestic deliveries (contact the Printing/Publishing Department). Foreign mailings will be First Class, depending on the nature of the document.

Customer Distribution – You may arrange when your order is placed to have the printed materials delivered to you, or you may pick them up at the Printing/Publishing Department.

4.3 Submitting Work for Printing and Distribution

1. Incorporate any changes from R&A Form SF 1008-RA. Refer to the checklist (Appendix B) to be sure that the document has been properly prepared.
2. Order report covers and legal notice masters from the Creative Arts Department (NM) using Service Order Form SA 1820-A (Figure 4-1) or the Communication Arts

Department (CA) online service order
(<http://www.ran.sandia.gov/CaLabCom/LabComCA.html>).

These must be included with the master or electronic files sent to the Printing/Publishing Department. When a cover is requested from the Creative Arts Department, the author's title page is compared to the completed R&A Form SF 1008-RA.

3. Check the master or the electronic files to be sure that page numbering is sequential. For back-to-back printing, right-hand pages have odd numbers and left-hand pages have even numbers. Refer to Appendix B, Checklists.
4. The report cover is proofed by the author.
5. Send the report with Service Order Form SA 1820-A to the Printing/Publishing Department (NM) or Communication Arts Department (CA). Retain a copy of the service order to send to Document Processing. With a SAND Report, submit R&A Form SF 1008-RA, signed off through Section 10.
6. Mail or hand-carry the electronic files or report masters and Service Order Form SA 1820-A to the Printing/Publishing Department. If the report material is mailed, retain a copy of the service order.
7. To give Document Processing the information to process the reports for final distribution, immediately prepare Record of Origination and Distribution of Publication Form SF 2900-FBB (Figure 4-2).
8. Attach a copy of the Service Order Form SA1820-A used to order Printing/Publishing Department services.
9. Make self-adhesive labels for all internal and external addressees receiving classified reports and for all internal addressees receiving Confidential or Secret reports. The Document Processing, Printing/Publishing team supplies labels for external addressees who are to receive Confidential and Secret reports. If the report is Secret, also prepare Receipts for Classified Information (RCIs) and Records of Internal Transfer (RITs) if the report is going outside Tech Area I.
10. Send the forms and labels to Document Processing.
 - **IF** the service order indicates in the "Deliver To" section that the printed copies are to be mailed, Document Processing intercepts the reports and processes them for distribution.
11. Send one electronic copy and two print copies to the Technical Library.

NOTE:

Instead of listing addresses on the form, type or write "See Attached" and attach the distribution list from the report.

5. SAND REPORT PREFERRED SPECIFICATIONS AND STRUCTURE

- | | |
|------------------------------|----------------------------------|
| 5.1 Preferred Specifications | 5.9 Acronyms and Abbreviations |
| 5.2 SAND Report Structure | 5.10 Body of the Report |
| 5.3 Covers | 5.11 References and Bibliography |
| 5.4 Title Page | 5.12 Back Matter |
| 5.5 Acknowledgements | 5.13 Distribution |
| 5.6 Contents | |
| 5.7 Preface or Foreword | |
| 5.8 Executive Summary | |

5.1 Preferred Specifications

The following print styles and sizes were selected for ease of reading. The use of very small type is discouraged. All-capitalized headings are avoided because they are harder to read. SAND Reports take a variety of forms, and the preferred specifications are guidelines that work for most documents. Authors may use other formats but are cautioned to be aware of the usability and readability of their text and figures.

Title and Headings

Figure 5-1 shows a selection of headings appropriate for a SAND Report. At the author's discretion, sections may be numbered, or the heading style may be varied, depending upon the particular needs of the document. It is desirable to avoid many headings and short sections that interrupt the flow of the text. In longer documents, dropping the major section titles ("drop head") down two or three line spaces from the top of the text area aids the reader in finding sections.

Document Title
(24-point Arial or Helvetica Bold, 22 point if title is long)

Chapter Title (20-point Arial or Helvetica Bold)

Level 1 Sidehead (18-point Arial or Helvetica Bold)

Level 2 Sidehead (14-point Arial or Helvetica Bold)

Level 3 Sidehead (12-point Arial or Helvetica Bold Italic)

Level 4 Sidehead (11-point Arial or Helvetica Bold)

Level 5 run-in heading (11 point Arial or Helvetica Bold). Run-in headings appear on the same line of the text that it introduces.

Level 6 run in (11-point Times New Roman or Century Schoolbook, Italic).

Figure 1.1. 11- Point Arial or Helvetica Bold. End with a period, put caption under figure.

Table 1.1. 11-Point Arial or Helvetica Bold. Place above the table.

Figure 5-1. Sample of SAND Report Headings, Figure Captions, and Table Titles.

Headers and Footers

Headers and footer are optional, but they should be appropriate to the document and useful to the reader. Headers and footers may not include the Sandia logo, departmental logos, or the words “Sandia National Laboratories.”

Body Text

Type Size and Font

11- or 12-point Times New Roman or other serif type is appropriate for body type in most reports. The readability of type varies by font, so pick a point size that works for the font you use.

Line Length

Double Column – 3 ¼ inches for each column, gutter ¼ to 1/3 inch between columns.

Single Column – 6 ¼ inches or 6 ½ inches. Use with 10 to 12 point type. Never exceed 7 inches for line length. A 7-inch line should use 11- or 12-point type.

Line Spacing

Single line spacing is usually used for line spacing except for reports with equations (1.5 or double line spacing may be used).

Hyphens and En Dashes

Hyphens (-) are used only for breaking words. The en dash (–) can be used as a minus sign or used in inclusive numbers (e.g., 18–21). The em dash (—) is used as punctuation to break a sentence abruptly.

Paragraph Style

Paragraph Indents, Spacing, and Numbering

Block or initially indented paragraphs are acceptable. Leave one or two blank lines between paragraphs.

Paragraph numbering is not required when there is not extensive cross-referencing within the report. It may be distracting to the reader.

Ragged Right Margin or Justified Right Margin

Either is acceptable. Text with a ragged right margin has been shown to be faster to read. Right-justified text may have uneven spacing that needs to be corrected.

Page Layout

Paging

SAND Reports are usually printed on both sides (back to back) of the page. Headers, footers, page numbers, and margins need to alternate appropriately, depending on how you have set up the document. Make a two-sided copy of your document to be sure that paging is correct. New

sections, chapters, and appendices usually begin on an odd-numbered (right-hand) page in longer documents.

Page Margins

One inch, on top, bottom, and sides. The left margin may be set at 1.25 inches. If different margins are used, the widest is the binding-side margin.

Page Numbers

One-half inch from bottom of page and ½ inch below last text line, centered or flush with outside margin (centered page numbers are preferred). Begin counting with the cover (see 5.2) so that the title page is page 3. Use only Arabic numbers on SAND Reports.

For a classified report, the page number 1 shows on the cover, but it does not appear on the cover of an unclassified document.

Classified reports that end on a right-hand (odd-numbered) page have a following blank, even-numbered page, with a page number, proper marking, and Intentionally Left Blank centered on it. Blank pages in unclassified reports may be handled similarly.

Only accountable classified documents (Top Secret, Sigma 14, Sigma Removable Electronic Media, NATO, UK, Crypto/Comsec, and ARG/NEST) at Sandia are required to have page numbers sequentially numbered. Other documents may be numbered sequentially or by chapter or section.

Figures and Tables

Orientation of Figures and Tables

Graphics may be presented in portrait (vertical) or landscape (horizontal) orientation, which requires the page to be turned 90 degrees counter-clockwise (to the left) to be read. Use of landscape figures is discouraged unless they are required for legibility. The caption must also be landscaped, but the page number orientation and position remains the same as for portrait pages.

Placement of Figures and Tables

Figures and tables should appear as soon as possible after they are called out in text and always within the same major section or chapter in longer documents. Lengthy tables or a long series of illustrations may be placed in an appendix if they would interrupt the flow of the text.

Captions for Figures and Tables

Figure captions should be short and end with a period. Place the caption 1 to 1 ½ lines **under** the illustration. Enter the figure caption in a font different from that of the text (e.g., 11-point Arial bold). Descriptive text after the period should be in the same font but not bolded. Block the caption under the figure unless it is very narrow, but do not run it across the page.

Table titles are placed 1 to 1 ½ lines **above** the column headings. They should be in the same font used for captions, ending in a period. Descriptive text after the period should be in the same font but not bolded.

Callouts

The preferred minimum type size for callouts is 10 points, although 9-point bold may be legible.

Source Lines on Figures

If a graphic is taken from another work, that information must be included with the graphic. If the graphic is taken from a non-Sandia source, obtain written permission from the previous publisher. Cite the source in the caption, or above the caption such that the source information will travel with the graphic if used elsewhere. Changing the graphic slightly does not relieve the author of the obligation to use a source line.

Examples:

“Reprinted with permission from...” if unchanged

“Adapted with permission from...” if slightly modified

“Redrawn with permission after...” if redrawn in substantially the same manner

Oversize Figures

Oversize figures may require special handling in printing or copying. Be sure that Printing/Publishing is aware of your needs and can accommodate them.

Markings and Legends

Place the classification level (TOP SECRET, SECRET, or CONFIDENTIAL) at the top and bottom of the page, using bold print at least 1/8 inch high. Refer to Appendix A.

Sandia Address Format

Use the following address formats:

Sandia National Laboratories
Name (initials and last name or full name)
Mail Stop (MS #####)
P.O. Box 5800
Albuquerque, NM 87185-#### (mail stop number)
Sandia National Laboratories
Name (initials and last name or full name)
Mail Stop (MS #####)
P.O. Box 969
Livermore, CA 94550-0969

Sandia National Laboratories
Name (initials and last name or full name)
Mail Stop (MS #####)
P. O. Box 871
Tonopah, NV 89049-0871

5.2 SAND Report Structure

SAND Reports follow a standard sequence, although deviations may be made when necessary. Not all the elements appear in every document.

Front Cover (page 1, number is not shown on unclassified report)
Disclaimer Page (inside front cover, page 2)
Title Page (page 3)
Acknowledgments (optional, page 4; this page may be left blank)
Contents (page 5, or odd-numbered page)
Preface or Foreword (optional, next blank page after Contents)
Executive Summary (optional, odd-numbered page)

Acronyms or Abbreviations
Body of the Report
References and Bibliography
Back Matter
Glossary
Appendices
Index
Distribution (odd or even page)

5.3 Covers

The cover includes the following elements:

SAND Number
Distribution Limitation
Print Date
Title
Authors

SAND Report Covers

The text for SAND Report covers are prepared by the Creative Arts Department. Some cover templates are available on the Web. Covers are printed on preprinted Sandia stock, and the text is laid out as shown in Figure 5-2.

Markings and legends required for the cover are given in Appendix A.

The inside front cover carries the legal notice (disclaimer) and is numbered page 2 (Figure 5-3).

Internal Memorandum Covers

Covers for internal memoranda are shown in Figure 5-4. The unclassified cover is available at:

<http://www-irn.sandia.gov/corpdata/corpforms/1005j.dot>

SANDIA REPORT

SANDNumber
Unlimited Release
Printed Date

Title

Author(s)

Prepared by
Sandia National Laboratories
Albuquerque, New Mexico 87185 and Livermore, California 94550

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy under Contract DE-AC04-94AL85000.

Approved for public release; further dissemination unlimited.



Figure 5-2. Layout of SAND Report Cover.

<http://www-im.sandia.gov/corpdata/corpforms/1075sur.dot>

Issued by Sandia National Laboratories, operated for the United States Department of Energy by Sandia Corporation.

NOTICE: This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government, nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors, or their employees, make any warranty, express or implied, or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represent that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government, any agency thereof, or any of their contractors or subcontractors. The views and opinions expressed herein do not necessarily state or reflect those of the United States Government, any agency thereof, or any of their contractors.

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Available to DOE and DOE contractors from
U.S. Department of Energy
Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37831

Telephone: (865)576-8401
Facsimile: (865)576-5728
E-Mail: reports@adonis.osti.gov
Online ordering: <http://www.doe.gov/bridge>

Available to the public from
U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Rd
Springfield, VA 22161

Telephone: (800)553-6847
Facsimile: (703)605-6900
E-Mail: orders@ntis.fedworld.gov
Online order: <http://www.ntis.gov/ordering.htm>



Figure 5-3. Inside Front Cover.

SAND2001-xxxx
Internal Distribution Only
 (Use Patent Caution, if applicable)

Concepts for... (title)

John J. Doe and John H. Smith (authors)

Printed Month and Year

internal memorandum • not to be distributed outside Sandia National Laboratories

This cover format is to be used for informal working papers as distinguished from official Sandia National Laboratories reports. Review is required for classification and patent approval. Send two copies to the Technical Library, MS0899. Formal scientific and technical reports must be produced in the official Sandia National Laboratories report format and require full review and Manager or Director approval.

Add applicable markings (Patent Caution, Official Use Only, etc.) to this cover page.

SECRET (UNCLASSIFIED SAMPLE)

SANDXX-XXXX
Internal Distribution Only
 (Use Patent Caution, if applicable)

This document contains ___ pages.

Concepts for (title)

John J. Doe and John H. Smith (authors)

Printed January 1998

Note:
 You may reconstruct this form on your PC or have Org. 12620 (845-8261) make the cover for you.

Another alternative is to copy the "internal memorandum" block from this form and mount it on your cover.

internal memorandum • not to be distributed outside Sandia National Laboratories

This format is to be used for informal working papers as distinguished from official Sandia National Laboratories reports. Review is required for classification and patent approval. Two copies must be sent to the Technical Library, 9616. **Formal scientific and technical reports must be produced in the official Sandia National Laboratories report format and require full review and Manager or Director approval.**

Dissemination and Reproduction Limitation — **No further reproduction and/or dissemination of this document is permitted without the consent of the originator.**

RESTRICTED DATA
This document contains Restricted Data as defined in the Atomic Energy Act of 1954. Unauthorized disclosure subject to Administrative and Criminal Sanction.

Classified By: _____ (ADC's name)
 Title/Org.: _____
 Date: _____
 Derived From: _____

SECRET (UNCLASSIFIED SAMPLE)

Internal Memoranda:
 Unclassified and classified internal memoranda do not require a title page.

SAND numbers are used to list and track internal memoranda (reference symbols are no longer used). The line organization obtains the SAND number from the R&A Desk and prepares the memorandum.

NOTE: Even though SAND numbers are not given out until documents complete the R&A process, SAND numbers can be given out to the author of the internal memorandum when the author calls for it.

No copies of the internal memorandum may be sent outside SNL, nor may the memorandum be cited as a reference in externally distributed papers and reports.

The line organization is encouraged to send one copy of the internal memorandum to Central Technical Files. and two copies must be sent to the Technical Librarv.

<http://www-irm.sandia.gov/corpdata/corpfoms/1005j.dot>

Figure 5-4. Memorandum Covers (Unclassified and Classified)

5.4 Title Page

Markings and legends for the title page are given in Appendix A. The Abstract is often justified.

Unclassified Title Page (Figure 5-5)

An unclassified title page includes the following:

Report Number
Distribution Limitation (Unlimited Release, Export Controlled Information, etc.)
Print Date
Supersession Statement (if the report is a revision)
Title of Report
Authors*
Contract or purchase order number if work was done with non-DOE funds or if report is authored by a non-Sandian on contract.*
Abstract (unless report is being done for an agency with different requirements, e.g., NRC)
Any required notices and markings that limit distribution (such as the Non-Sandia Proprietary Information notice)

Classified Title Page (Figure 5-6)

A classified title page includes the same elements as does an unclassified title page except for the following differences:

Any special limitation such as Nuclear Weapon Data and Sigma Number
Title followed by its classification in parentheses, e.g., (U) or (SRD)
Any required notices (such as the Restricted Data notice)

* Figure 5-7 shows how to handle multiple authors on the title page. Figure 5-8 is a title page for a Contractor report.

5.5 Acknowledgments

Acknowledgments credit substantial contributors to the work who are not authors. Contributions that are part of a person's normal job responsibilities need not be acknowledged. The acknowledgments statement usually appears on the back of the title page and is numbered page 4.

5.6 Contents

The Contents begins on an odd-numbered page, usually page 5. It should list chapters and sections by number and title, including headings in the body text through the third order (include heading numbers, if any). Back matter should be listed by number (if any) and title. It is not necessary to list the headings within the appendices (Figure 5-9).

If the document has more than two figures or tables, the figures and tables are listed separately by number and title. For expanded captions, give the text through the first period. Material in parentheses should be omitted unless needed to identify the figure or table.

5.7 Preface or Foreword

The Preface or Foreword is optional. It commonly begins on the next blank page after the Contents, or it may precede the Contents. The Preface includes information that is of interest to the audience but is not essential to a clear understanding of the text. A Foreword (never Forward) is written by a person other than the author after the document is finished and carries that person's name at the end. It consists of comments about the value, background, author's expertise, or other information that might add value to the report.

SAND number comes from R&A Desk at final stage of Review & Approval process.

Distribution limitation: See Appendix A for official wording for all distribution limitations.

Use the current month for print date unless you have a compelling reason to use another date.

SAND2002-1674
Unlimited Release
Printed May 2002

Replace "Unlimited Release" with distribution limitation applicable to the report.

The Velocity Interferometer system for any Reflector

Mod B, the Push-Pull With Double-Delay-Leg and Dual VISAR Modes

O. B. Crump, Jr., and P. L. Stanton

Explosive Projects and Diagnostics Division
Sandia National Laboratories
P.O. Box 5800
Albuquerque, NM 87185-0619

See Figure 5.7 for treatment of multiple authors on title page.

Preferably, spell out authors' first or middle name.

Zip + main author's Mail Stop

Include the organization title but not the org. number.

Sandia requires official reports to have an abstract (exceptions are rare).

Abstract

The Velocity Interferometer System for Any Reflector (VISAR) is the modern standard for measurement of shock phenomena. This report describes the original VISAR and its evolution into the current Mod B version built for Sandia's Explosive Projects and Diagnostics Division 2514. The Mod B system incorporates the push-pull signal processing introduced in Mod A to reduce sensitivity to target self-light and simplify data reduction, and it introduces the use of two push-pull VISARs to obtain two modes of operation.

For some UCI, a legend is included here. See Appendix A.

Figure 5-5. Unclassified Title Page.

SECRET

SAND number comes from R&A Desk at final stage of R&A process.

Use the current month for print date unless you have a compelling reason to use another date.

SAND2002-XXXX
Nuclear Weapon Data • Sigma 1
Printed October 2002

Final Weapon Development Report for the BXX-X and BXX-X Bombs (U)

UNCLASSIFIED Illustration Purposes Only

Enter classification of title and abstract as indicated on R&A form.

Preferably, spell out author's first or middle name.

Include the organization title, but not the org. number.

Michael C. Doe
Universal Applications Department
Sandia National Laboratories
P.O. Box 5800
Albuquerque, NM 87185-0619

Zip + author's Mail Stop

Abstract (U)

This report describes the status of the BXX-X and BXX-X bombs of first production unit. These bombs each incorporate a Category F permissive action link, a nonviolent command disable system. The importance of knowing and stabilizing the ambient working temperature of thermocouple tubes is stressed. Other observations regarding time constants versus pressure changes are also noted.

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Title/Org.: _____
Date: _____
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(Name of Guide/Source Document)
Date (Guide/Source Document): _____

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3
SECRET

Figure 5-6. Classified Title Page.

Multiple authors:	Frank Biggs, Marion P. Apodaca, and Clarence R. Mehl Test Planning and Diagnostics Department Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185-3415
Two or more departments:	J. William Rogers, Jr., and Stephen J. Ward Initiating and Pyrotechnic Components Department Ronald A. Guidotti Exploratory Batteries Department Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185-2356
Sandia and an outside company:	Randall R. Nason and August E. Binder Project Engineering Department Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185-0156 John L. Darby Science and Engineering Associates, Inc. Albuquerque, NM 87190
Editor:	Randall R. Nason, Editor Project Engineering Department Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185-9824
Authors and editor:	Frank Biggs and Marion P. Apodaca Test Planning and Diagnostics Department Edited by Stephen J. Ward Initiating and Pyrotechnic Components Department Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185

Figure 5-7. Multiple Authors on Title Page.

SAND2002-XXXX
Unlimited Release
Printed Month 20XX

Field Examination of Shale and Argillite in Northern Nye County, Nevada*

James R. Connolly
Lee A. Woodward

Department of Geology
and
Institute of Meteorites
University of New Mexico
Albuquerque, NM 87131

Sandia Contract No. XX-XXXX

Include Sandia contract (purchase order) number. Example: AB-7294

Either center it under the contracting company's name or footnote it to the title.

Abstract

Thirty-two locales underlain by clay-rich strata ranging from Cambrian Pioche Shale to Mississippian Chainman Shale and equivalents were examined in northern Nye County, Nevada. The text of the report summarizes data for each stratigraphic unit examined. Checklists for tabulating field data at each locale are included in an appendix. Working guidelines used to evaluate the locales include a minimum thickness of 150 m (500 ft) of relatively pure clay-rich bedrock, subsurface depth between 150 m (500 ft) and 900 m (3000 ft), low topographic relief, low seismic and tectonic activity, and avoidance of areas with mineral resource production or potential. Field studies indicate that only the Chainman Shale, specifically in the central and northern parts of the Pancake Range, appears to contain sites that meet these guidelines.

*The work described in this report was performed for Sandia National Laboratories under Contract No. XX-XXXX.

Figure 5-8. Title Page for Contractor Report.

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 1 Stratigraphic nomenclature and geologic column 27

 2 Geotechnical data; strategic petroleum reserve caverns..... 32

Comments:

Format. Present the contents listing in a format that clearly distinguishes the organization of the report. One way to do this is to insert a space above major divisions and indent subheads appropriately. Another is to use bold print for the major divisions, as is done here.

Figure numbers. Use only number designators in the number column. Do not use letter suffixes (a, b or A, B). Rather, use a composite figure title and include the (a) and (b) (or A and B) subtitles as part of the composite as in the Figure 2 listing above.

Figure captions. Use only the actual caption. Do not include descriptive text. Although copying the full caption with descriptive matter is faster and easier for the author, the extra text prevents quick and easy identification of the main figure topic.

Figure 5-9. Contents Page.

5.8 Executive Summary

The Executive Summary (or Summary) is optional. It begins on a right-hand (odd-numbered) page. It may also be in the body of the report as the first section. It is a self-contained, concise restatement of the major points in the body of the report. It includes information on how the work was done, the nature and purpose of the investigation, equipment and processes used, the results, and primary conclusions or recommendations.

5.9 Acronyms and Abbreviations

An Acronyms and Abbreviations list may be included if it is useful to the reader. It precedes the body of the report. The list begins on a right-hand (odd-numbered) page. A blank page designated Intentionally Left Blank follows it if it ends on an odd page (so that the body text may begin on an odd-numbered page).

Words that are not capitalized in their expanded form should not be capitalized when given in the list (e.g., IC – integrated circuit).

NOTE:

Words that are defined rather than expanded from the shortened form are placed in a glossary in the back matter.

5.10 Body of the Report

The body of the report begins on a right-hand (odd-numbered) page. It may consist of chapters (shorter documents are usually divided into sections, not chapters) or sections. Numbered headings may be used, but it is desirable to limit them to two decimal places (e.g., 1.3.4). Major sections may be run together in a smaller report or may begin on a right-hand (odd-numbered) page in longer reports.

The report typically begins with an introduction and ends with a summary, conclusions, or recommendations section.

5.11 References and Bibliography

The References or Bibliography section follows the body of the report. References do not include items from the Appendices, which should have their own references or bibliography sections, if needed. A references section includes listings for materials quoted or referred to in the text. References are tied to particular passages in the body of the text. A bibliography may include materials consulted but not cited. A document might have either, both, or neither. Section 6.3 shows the references styles used and Sandia.

5.12 Back Matter

Back Matter should be numbered in sequence following the last page of the body of the report. If chapters and sections have previously begun on right-hand (odd-numbered) pages, so should the glossary, appendices, and index. Mark blank even-numbered pages with This Page Intentionally Left Blank in classified documents. You may also mark the blank pages in unclassified documents.

Glossary

A Glossary is optional. The glossary defines terms that are used in the text that might be unfamiliar to some of the readers.

Appendices

Appendices are optional. Appendices support the text, but are treated separately. References in an appendix are placed in the references list for that particular appendix.

If an appendix is itself a publication, it may have all the components of a report, including its own contents list and page numbering. It may be necessary to reduce the pages to include the SAND Report page numbers and markings. In using previously published documents, the author is cautioned to observe copyright and distribution limitations.

Index

An index is optional. An index may be set up to update automatically when page numbers change. Otherwise, it must be constructed when the final paging of the document has been determined.

5.13 Distribution

The last item in the report is the distribution list. Some access limitations such as Specified Dissemination require a different heading for the list (check Appendix A). The distribution list may begin on an odd- or even-numbered page. External addresses are listed first (with any foreign addresses last). Then internal addresses are listed, followed by the “record” or “housekeeping” copies retained by Sandia and DOE for their records (Figures 5-10 and 5-11). Figure 5-12 is the Sandia/CA distribution list.

The following are guidelines for assembling the distribution list:

Use discretion in compiling the distribution list. Keep the number of copies as low as possible and still inform interested people about your work.

Arrange the list of internal recipients by increasing Mail Stop numbers.

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1	0612	Review & Approval Desk, 9612 For DOE/OSTI

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2	0899	Technical Library, 9616
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² For CRADA documents, add the following to the END of the housekeeping copies:

1 0115 CRADA Administration, 1323

Figure 5-10. Distribution List “Housekeeping” Copies.

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Figure 5-11. Distribution List Sample, Classified.

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September 26, 2002**

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DOE/OSTI via URL (List on the Distribution list but do not send a hard copy. A copy will be sent electronically by R&A.)

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- 1 MS 9021 Classification Office, 8511/Technical Library, MS 0899, 9616

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- 3 MS 9018 Central Technical Files, 8945-1
- 1 MS 0899 Technical Library, 9616
- 1 MS 9021 Classification Office, 8511/Technical Library, MS 0899, 9616
- 1 MS 9021 Classification Office, 8511 For DOE/OSTI
- 1 MS 0161 Patent and Licensing Office, 11500

CRADA

- 3 MS 9018 Central Technical Files, 8945-1
- 1 MS 0899 Technical Library, 9616
- 1 MS 9021 Classification Office, 8511/Technical Library, MS 0899, 9616
- 1 MS 0115 CRADA Administration, 1323

For LDRD add:

- 1 MS 0188 D. Chavez, LDRD Office, 1030

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- 1 MS 0899 Technical Library, 9616
- 1 MS 9021 Classification Office, 8511/Technical Library, MS 0899, 9616

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- 1 MS 0899 Technical Library, 9616
- 1 MS 9021 Classification Office, 8511/Technical Library, MS 0899, 9616
- 1 MS 9021 Classification Office, 8511 For DOE/OSTI

Figure 5-12. Sandia/CA Distribution List

6. ADDITIONAL GUIDELINES

- 6.1 Trademarks, Copyrights, and Permission to Use Another's Work
- 6.2 Equations
- 6.3 References

6.1 Trademarks, Copyrights, and Permission to Use Another's Work

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Sandia National Laboratories
Albuquerque, NM 87185-XXXX
March 14, 1997

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Sincerely,

*John J. Doe
Title (if appropriate)
Org. Name and Number
MS #####*

Figure 6-1. Example of a Letter to a Publisher of Copyrighted Material.

6.2 Equations

Procedures for Inputting from Handwritten Copy

Pay special attention to

Superscripts and subscripts
Look-alike characters:

a, α, ∞ ; β, δ ; w, ω (omega, not script w); Γ, T ; η, n ; κ, k ;
 γ, λ ; μ, u, v, ν, ν ; l, i ; ρ, p ; ξ, ζ ; τ, t ; χ, x

Continuity of equation numbers. (Not all equations require numbers, but the ones that are numbered must be in unbroken sequence.)

Formatting Equations

Line Spacing

The spacing of lines in equation typing depends on the type of equipment you have:

Use single-spaced text if your equipment prints subscripts and superscripts within the 1-line space.

Use 1½-line spacing if it does not.

Use double-spaced text only if nothing else works.

The final product should be easy to read, but not spaced out excessively.

Centered, Indented, or Flush Left

Centered equations are preferred. You may also indent all displayed expressions by a standard paragraph indent or even

start them flush with the left margin. Special formatting requirements may be specified by an organization or by a particular professional society.

Equation Number

Enclose the equation number in parentheses and place it flush with the right margin, either even with the last line of the equation or even with the center line of the equation.

Punctuation

Two styles of punctuation are acceptable: *text* style and *open* style.

Text Style: To punctuate in the *text* style, read the displayed equation as if it were text and punctuate it accordingly. A displayed mathematical expression is often the continuation or completion of the text that introduces it, as in the following example.

...This solution resulted in

$$L = \log \left| \frac{TT_o - 1 + pp_o}{TT_o - 1 - pp_o} \right|$$

$$= T_o - p_o \cos \theta$$

$$= \log \left| \frac{T + p}{T - p} \right|$$

where

T = time
 p_o = perpendicular, and
 pp_o = perpendicular pitch.

Open Style: To punctuate in the *open style*, use no comma or periods at the end of any equation line (although you may use them *within the line*).

Spacing within the Equation

Use **no** space in the following instances:

Between a number and the symbol it multiplies or between two or more symbols that multiply each other: $3b$; $5aB$; $3\delta xy$.

Before or after superscripts and fences:

$$3x_{y-2}d; \exp[(y-1)/(z+n)]$$

Within subscript or superscript expressions: b^{n-1} $\lim_{a \rightarrow 0}$

Use **one** space as follows:

Before and after verbs: $a = b$; $y \geq 8z$

Before and after conjunctions: $a + b$; $(b^{n-1} + 2bx)$

Before but not after $+$, $-$, or \pm when they are used as adjectives:

$$-x(a + b) = -3; x = \pm 3$$

After commas: y_1, y_2, \dots, y_n

Before and after sigma-class symbols:

$$a \int x dy \quad \lim_{c \rightarrow p} \inf \sum_{n=p}^{\infty} f^{(n)}(c) \quad \text{II} \quad ah$$

Before and after the following functions:

sin: $a \sin x$; lim: $\lim_{c \rightarrow p} \inf p$; tanh: $2 \tanh \theta$
 log: $\log x$; exp: $\exp a^n$; log log: $\log \log x$

If any of the above functions is preceded or followed by a superscript or subscript, parenthesis, brace, or bar, then the space between them is eliminated: $[(x - y)\log x]$ $(a_2 \sin x)$
 $\sin(a - x)$.

Before and after a vertical rule that appears singly or a colon that is used as a mathematical symbol: $a | b$ as $: a \in A$ $A = (x | P)$

Before a back inferior (a subscript placed before a term), as the $2x$ in this example: $a {}_2xb$ $b {}_1x_2ah$.

Before and after ds, dp, dx, and similar combinations of d and another symbol following: $\int f(x) dx$ $\int \int \int dr d\theta dr$

Superscripts and Subscripts in the Same Expression

When superscripts and subscripts are used together, align them consistently (either stacked or staggered). If the terms have several characters, you can change the form as in the third column below.

Superscripts and subscripts	Staggered	Changed Form
x_m^n	x_m^n	
x_c^{a-b}	x_m^{a-b}	$(x_c)^{a-b}$
x_{ay}^{mn}	x_{ay}^{mn}	$(x_{ay})^{mn}$

Fractions

Use slashed fractions (1/8, 1/4) in text and in superscripts and subscripts; in display, use barred fractions (or a combination if that adds clarity—see **In Display**).

Slashed Fractions in Text

Use *slashed fractions* in text to avoid unattractive, spread-out lines.

Slashed Fractions in Superscripts and Subscripts

Use slashed fractions in superscripts and subscripts. The single-key fraction ($\frac{1}{8}$, $\frac{1}{4}$) may be too small to read, and the barred, or stacked, fraction is too awkward.

This	Not This
$x^{1/8}$	$x^{\frac{1}{8}}$
$y^{(a+b)/(x-y)}$	$\frac{a+b}{Y^{x-y}}$

Note use of parentheses to retain clarity.

Because authors usually focus on the information rather than the format when they write, they often use stacked fractions within the text. To change stacked fractions to slashed fractions, follow the guidelines below:

Stacked	Replace with this:	Or this:	Not with:
$\frac{a+1}{b}$	$(a+1)/b$	$(a+1)b^{-1}$	$a+1/b$
$\frac{a}{(x+1)^3}$	$a/(x+1)^3$	$a(x+1)^{-3}$	
$\sin \frac{a}{x}$	$\sin(a/x)$	$\sin a/x$	

In Display

Use *stacked*, or *barred*, fractions in display.

Exception: The appearance of multilevel stacked fractions can often be improved by changing the stacked portion in the numerator to a slashed fraction, and the same in the denominator. See the following example:

Stacked	Replace with one of these:	
$\frac{\sin a}{x}$	$(\sin a)/x$	$\sin a/x$
$\frac{a}{x^3}$	a/x^3	ax^{-3}
$\frac{a}{(b-c)^2}$	$a/(b-c)^2$	$a(b-c)^{-2}$
$\frac{\partial}{\partial \theta} F(u, k, \theta)$	$\partial F(u, k, \theta) / \partial \theta$	$(\partial / \partial \theta) F(u, k, \theta)$

Exponential Function

The terms e [as in e^x] and exp [as in $exp(x^2 - 1)$] mean the same thing and can be interchanged as necessary to accommodate space. Consistency in the form used is not necessary; both forms can be used within the same sentence or display.

To avoid double superscript:

Instead of:

$$e^{x^2-1}$$

Use:

$$\exp(x^2 - 1)$$

To avoid fractions in the superscript:

Instead of:

$$e^{\frac{a-b}{c+d}}$$

Use:

$$\exp\left(\frac{a-b}{c+d}\right) \text{ or}$$

$$\exp((a-b)/(c+d))$$

Matrices and Determinants

Always set matrices and determinants in display. Set them in columns and rows and enclose them with brackets, parentheses, or lines:

$$\begin{bmatrix} 1 & 2 & 3 \\ 1 & 2 & 3 \\ 1 & 2 & 3 \end{bmatrix} \qquad \begin{vmatrix} 1 & 2 & 3 \\ 1 & 2 & 3 \\ 1 & 2 & 3 \end{vmatrix}$$

Line Breaks

When an equation is too long for one line, break it according to the following rules:

Break before a verb that does not occur within fences.

Break at any other space (see “spacing”), except

- ❑ after a collective sign, do not break until there is an operator outside of fences
- ❑ after an integral sign (\int), do not break until a d occurs; then break after the next punctuation, or before a verb.

When a set of fences is followed directly by another set of fences, break between them and insert a sign of multiplication (\cdot or \times) before the carried-over set of fences.

Exception: This rule does not apply if the fences are preceded by a sigma-class symbol or if they have a slash between them.

Alignment of Line Breaks

If a single expression contains a series of equal signs, break at the equal sign and align the expressions vertically on the equal signs.

When breaking at a point other than an equal sign, align subsequent lines of the equation with the first character following the equal sign:

$$\frac{d\sigma}{dE_k d\Omega} = \frac{7.95 \times 10^{-26}}{8\pi 137} \frac{1}{E_k} \frac{p}{p_o} \left| \frac{8\sin^2 \theta (2T_o^2 + 1)}{p_o^2 \Delta_o^4} - \frac{2(5T^2 + 2TT_o + 3)}{p_o^2 \Delta_o^2} \right.$$

$$\left. - \frac{2|p_o^2 - E_k^2|}{Q^2 \Delta_o^2} + \frac{4T}{p_o^p \Delta_o} + \frac{L}{pp_o} \right| \frac{4T_o \sin^2 \theta |3E_k - p_o^2 T|}{p_o^2 \Delta_o^4}$$

6.3 References

As long as the basic information is included that permits a reader to locate the reference source (author, title, publisher, place of publication, and date of publication), the author has considerable latitude in choosing a reference style that is appropriate for the nature of the material and may elect to follow a style accepted by the professional societies in that field. The guidelines given here are for the convenience of Sandia authors and may be modified to suit their particular needs. The reference style loosely follows *The Chicago Manual of Style*.

Two methods of citing references are commonly used at Sandia:

Sequential
Author-Date

Figure 6-2 compares the two styles.

Sequential References

Cite numbered references in text with sequential Arabic numbers either superscripted or on the line in brackets. When you make a subsequent reference to a previously cited source, repeat the number assigned on the first reference. The numbers correspond to the References section, where the items cited are listed sequentially.

Text Example:

You can refer to Reference 1 in text, or you can use square brackets [1] or a superscript to mark your references.^{3,5-8,10,12,14} Note that superscripts are placed *outside* the punctuation marks, except when dashes are used. References in brackets or parentheses are placed *inside* all punctuation marks but quotation marks. If an exponent or footnote could be confused (e.g., 13 cm²), then make the reference in the line: 13 cm (Ref. 2).

Reference List Example:

1. R. L. Smith, R. M. Thompson, J. D. Doe, and T. J. Jones, *Computer Modeling of Gas Lasers*. Plenum Press, New York, 1978.

Author-Date References

The author-date style is useful when new references will be added to the list because the references are listed alphabetically by author. In the sequential reference style, renumbering of the references following the added item would be necessary.

The author-date style varies from the sequential style in three respects:

The order of listing in the References section is alphabetical by the author's last name.

A hang indent is often preferred.

The date is placed immediately after the author's name.

Therefore, you can also use Table 6-1 as a guide to setting up author-date references.

Text Example:

References are cited in text using the name of the author and the date of the publication (Jones 1998) or multiple authors (Jones and Lehigh 1997). If an author has two or more works in the same year, these are designated a, b, c, etc. (Jones 1999a; 1999b). You can refer to a work as in Smith (1998, part 2), and you can refer to specific parts of a work. You can cite multiple references (Jones 1999a; Jones and Lehigh 1997; Smith 1998).

Reference List Example:

W. G. Moffat, 1979, The Index Binary Phase Collections.
General Electric Co., Schenectady, NY.

NOTE:

To facilitate alphabetization by the author's last name, it is a common and permissible practice to list the first author's last name first in the author-date reference styles:

Jones, R. G., and William C. DeVore, 1980, A Study of
Magnetic Fields. William Brown Publishers, New York, NY.

Abbreviated References

The reference list in a publication that will be distributed only to a select group of readers, all of whom are familiar with the subject of the report and the references listed, may be done in abbreviated style, that is,

Do not italicize title or enclose it in quotation marks

Initial-cap first word only of a single-volume publication (such as a book or report)

Initial cap all major words of a journal

Use abbreviated style for journal volume and page
(22:131-39)

Examples:

J. H. Adlam and J. N. Burcham, 1964, *in* J Sci Instrum 43:93.

M. Hansen, 1958, Constitution of binary alloys. New Book Co.

W. G. Moffatt, 1979, The index to binary phase collections.
General Electric Co., Schenectady, NY.

SEQUENTIAL

1. F. L. Oetting, M. H. Rand, and R. J. Ackerman, in *The Chemical Thermodynamics of Actinide Elements and Compounds, Part I: The Actinide Elements*. International Atomic Energy Agency, Vienna, Austria, 1989.
2. M. Hansen. *Constitution of Binary Alloys*. New Book Co., New York, NY, 1990.
3. F. A. Shunk, *Constitution of Binary Alloys, Second Supplement*. McGraw-Hill Book Co., New York, 1991.
4. A. N. Vol'skii and Y. M. Sterlin, *The Metallurgy of Plutonium*, Translated From Russian. Jerusalem, Israel, Program for Scientific Translations; available from the U.S. Dept. of Commerce, Clearinghouse for Federal Scientific and Technical Information, Springfield, VA, 1995.
5. W. G. Moffatt, *The Index to Binary Phase Collections*. General Electric Co., Schenectady, NY, 1989.
6. J. G. Parr and A. Hanson, *An Introduction to Stainless Steel*. American Society for Metals, Akron, OH, 1995.
7. D. F. Bowersox and J. A. Leary, The Solubilities of Selected Elements in Liquid Pu. II. Titanium, Vanadium, Chromium, Manganese, Airconium, Niobium, Molybdenum and Thulium, in *J Nuc Mat* Vol. 27, No. 2, pp. 181-86, February 1996.

AUTHOR-DATE

- Hansen, M., 1989, *Constitution of Binary Alloys*. New Book Co., New York, NY.
- Moffatt, W. G., 1994, *The Index to Binary Phase Collections*. General Electric Co., Schenectady, NY.
- Nevada Department of Conservation and Mineral Resources, 1991a, *Regulations for Drilling Water Wells*. Carson City, NV, 36 p.
- Nevada Department of Conservation and Mineral Resources, 1991b, *Regulations and Rules of Practice for Drilling Oil and Gas Wells*. Carson City, NV, 26 p.
- Oetting, F. L., M. H. Rand, and R. J. Ackerman, 1989, *The Chemical Thermodynamics of Actinide Elements and Compounds, Part I: The Actinide Elements*. International Atomic Energy Agency, Vienna, Austria.
- Parr, J. G., and A. Hanson, 1995, *An Introduction to Stainless Steel*. American Society for Metals, Akron, OH.
- Shunk, F. A., 1990, *Constitution of Binary Alloys, Second Supplement*. McGraw-Hill Book Co., New York.
- Vol'skii, A. N., and Y. M. Sterlin, 1995, *The Metallurgy of Plutonium, Translated From Russian*. Jerusalem, Israel, Program for Scientific Translations; available from the U.S. Dept. of Commerce, Clearing-house for Federal Scientific and Technical Information, Springfield, VA.

Figure 6-2. Comparison of Sequential and Author-Date Reference Sections.

Table 6-1. Reference Examples

Books
R. L. Smith, R. M. Thompson, J. D. Doe, and T. J. Jones, <i>Computer Modeling of Gas Lasers</i> . Plenum Press, New York, 1978. [Multiple Authors]
F. A. Hopf, Amplifier Theory, in <i>Physics of Quantum Electronics</i> , S. F. Jacobs, M. Sargent III, and M. O. Scully, ed., vol. I, pp. 77-176. Addison-Wesley, Reading, MA, 1974. [Multiple Editors]
<i>Blasters Handbook</i> , 17th ed. E. I. duPont de Nemours and Co., Wilmington, DE, 1977. [General Editorship]
Manuscript Preparation and Copyediting, in <i>The Chicago Manual of Style</i> . The University of Chicago Press, Chicago, IL, 1982. [Chapter]
Multiple-volume Works
A. B. El-Kareh and J. C. J. El-Kareh, <i>Electron Beams, Lasers, and Optics</i> , vol. I and II. Academic Press, NY, 1970. [General title]
Conrad O. Jones, <i>Operation Plowshare</i> , vol. III of <i>Studies in Peaceful Uses of the Atom</i> . The Isolation Press, Los Alamos, NM, 1978. [Individual title for each volume]
Journal Article
D. B. Haidvogel, A. R. Robinson, and E. E. Schulman, The Accuracy, Efficiency, and Stability of Three Numerical Models With Application to Open Ocean Problems. Sandia National Laboratories report SAND86-1052J (submitted to <i>Journal of Computational Physics</i>). [Submitted]

G. L. Weatherly and P. J. Martin, On the Structure and Dynamics of the Oceanic Bottom Boundary Layer, Sandia National Laboratories report SAND87-2213J (to be published in <i>Journal of Computational Physics</i>). [Accepted but not published]
F. Schreiner, S. Fried, and A. M. Friedman, Measurement of Radio-nuclide Diffusion in Ocean Floor Sediment and Clay, in <i>Nuclear Technology</i> , vol. 59, pp. 429-38, 1982. [Published]
Conference Paper
G. L. Weatherly and P. J. Martin, On the Structure and Dynamics of the Oceanic Bottom Boundary Layer. Sandia National Laboratories report SAND87-2213C. Fifth Annual NEA-Seabed Working Group Meeting, Bristol, England, March 3-5, 1987. [Unpublished]
G. L. Weatherly and P. J. Martin, On the Structure and Dynamics of the Oceanic Bottom Boundary Layer, in <i>Fifth Annual NEA-Seabed Working Group Meeting</i> , held in Bristol, England, March 3-5, 1987. Sandia National Laboratories, Albuquerque, NM, 1988. (Note: The name of the company or society publishing the proceedings is listed as the publisher. In this case it was Sandia.) [Published in Proceedings]
Reports
Seabed Programs Division 6334, <i>The Subseabed Disposal Program: 1983 Status Report</i> , SAND83-1387. Sandia National Laboratories, Albuquerque, NM, October 1983. [Unclassified]
Author, <i>Report Title (U)</i> , SANDxx-xxxx. Sandia National Laboratories, Albuquerque, NM (SRD), August 1997. [Classified]

Thesis
C. W. Young, Depth Prediction for Earth-Penetrating Projectiles. PhD thesis, University of New Mexico, 1980.
Foreign Title
Ch'en Shich-ch'i, <i>Ming-tai shou-kung-yet ti yen-chiu</i> . (Studies on government-operated handicrafts during the Ming dynasty.) The Mandarin Press, Hong-Kong, 1978.
Translation
V. L. Bouch-Bruevich, <i>Electronic Theory of Heavily Doped Semiconductors</i> . American Elsevier Publishing Co., NY, 1966, translation.
Corporate Author
American National Standards Institute, <i>Scientific and Technical Reports: Organization, Preparation, and Production</i> . ANSI Z39.18-198-X. American National Standards Institute, Inc., 1430 Broadway, NY, 1989.
Unpublished Data
D. G. True, Penetration of Projectiles into Seafloor Soils, Sandia National Laboratories memorandum to D. R. Anderson, December 10, 1982. [Memorandum, unclassified]
D. G. True, Penetration of Projectiles into Seafloor Soils (title classification), Sandia National Laboratories memorandum (memorandum classification) to D. R. Anderson, December 10, 1982. [Memorandum, classified]
Statement by C. J. Osgoode, solar energy engineer, in personal interview at Barstow, CA, November 13, 1979. [Interview]
Opinion expressed by Conrad O. Jones, engineer, in an address "Is solar power cost effective?" at the University of New Mexico, Albuquerque, NM, December 31, 1978 (tape on file at the Sandia National Laboratories Reference Library). [Speech]

Letter from Conrad O. Jones, Division Supervisor, Engineering Division 0001 of Sandia National Laboratories, December 31, 1978. [Letter]
Professional Paper
W. H. Bradley, Origin and Microfossils of the Oil Shale of the Green River Formation of Colorado and Utah. U.S. Geological Survey Professional Paper 168, 1931.
Standard
Calibration Techniques for the Calorimeter Assay of Plutonium-Bearing Solids Applied to Nuclear Materials Control, ANSI N15.22-1975. American National Standards Institute, Inc., New York, 1975.
Newspaper Article
Study Labels Alcohol Fuel As Threat to Food Supply, <i>Dallas Times Herald</i> , March 16, 1980, Sec. A, p. 14.
Legal Document
43 CFR 192.14. ← (Code of Federal Regulations)
21 F.R. 623. ← (Federal Register)
New Mexico Revised Statutes, Title 24, Article 7.
U.S. Congress, Uranium Mill Tailings Radiation Control Act of 1978. Public Law 95-604, 95th Congress, November 1, 1978.

APPENDIX A: Markings and Legends

All SAND documents require a special marking or legend or both. This table lists the markings and legends to be used with various types of documents. To ensure proper physical protection, the appropriate markings and legends should be placed on the draft copy as soon as possible.

A.1 Unclassified Unlimited Release Documents

Name of Notice	Instructions	Sample
Unlimited Release	Cover/title page – top block under SAND No. Bottom of cover	Unlimited Release Approved for public release; further dissemination unlimited.

A.2 Unclassified Controlled Information (UCI)

In addition to the markings specified here, check the linked sites for other control requirements, including special cover pages and envelopes. The table entries are referenced to *Classification Handbook for Derivative Classifiers at Sandia National Laboratories*.

Name of Notice	Instructions	Sample
Applied Technology http://www-irm.sandia.gov/ADC/1handbook/class/uciat.htm	Cover/title page – top block under SAND No. Cover and title page	Applied Technology APPLIED TECHNOLOGY Any further distribution by a holder of this product or data therein to third parties representing foreign interests, foreign governments, foreign companies, and foreign subsidiaries or foreign divisions of U.S. companies shall be approved by the <i>insert appropriate NE Program Office official from list below</i>, U.S. Department of Energy. Further, foreign party release may require DOE approval pursuant to 10 CFR 810, and/or may be subject to Section 127 of the Atomic Energy Act. Further dissemination only as authorized by the originating facility or higher DOE programmatic authority; requester must possess appropriate

Name of Notice	Instructions	Sample
		<p>Security clearance, need-to-know, and facility approval for receipt and storage of classified documents by the DOE Office of Security Affairs.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Associate Deputy Assistant Secretary for Reactor Systems, Development, and Technology <input type="checkbox"/> Associate Deputy Assistant Secretary for Reactor Deployment <input type="checkbox"/> Deputy Assistant Secretary for Space and Defense Power Systems <input type="checkbox"/> Deputy Assistant Secretary for Naval Reactors
<p>Export Controlled Information (ECI) http://www-irm.sandia.gov/ADC/1handbook/class/ucieci.htm</p>	<p>Cover/title page – top block under SAND No.</p> <p>Cover only:</p> <p>Mark bottom of each page.</p>	<p style="text-align: center;">Export Controlled Information</p> <p style="text-align: center;">EXPORT CONTROLLED INFORMATION</p> <p>This product contains technical data, the export of which is restricted by the Nuclear Nonproliferation Act; the Arms Export Control Act (22 U.S.C. 2751, et seq.); the Atomic Energy Act of 1954, as amended (42 U.S.C. 2077); or the Export Administration Act of 1979, as amended (50 U.S.C. 2401, et seq.). Violations of these laws may result in severe administrative, civil, or criminal penalties. Further dissemination authorized to the Department of Energy and DOE contractors only; other requests shall be approved by the originating facility or higher DOE programmatic authority.</p> <p style="text-align: center;">EXPORT CONTROLLED INFORMATION</p>

Name of Notice	Instructions	Sample
	<p>If ECI information falls into one of the following categories (which do not appear on the SAND Report), use the appropriate legend:</p> <p>ITAR – International Traffic and Arms Regulation</p> <p>EAR – Export Administration Regulations</p> <p>DOE – Department of Energy</p> <p>NRC – Nuclear Regulatory Commission</p>	<p>NOTE: Place the legend for the appropriate ECI category (below) on both cover and title page.</p> <p>Treat this material per Department of State (DOS) International Traffic and Arms Regulations, 22 CFR 120-130. Information contained in this document is also subject to controls defined by the Department of Defense Directive 5230.25.</p> <p>Treat this material per Department of Commerce Export Administration Regulations, 15 CFR 730-774.</p> <p>Treat this material per Department of Energy Assistance to Foreign Atomic Energy Activity Regulations, 10 CFR 810.1.</p> <p>Treat this material per the Nuclear Regulatory Commission’s Export and Import of Nuclear Equipment and Material Regulation, 10 CFR 110.</p>

Name of Notice	Instructions	Sample
<p>Naval Nuclear Propulsion Information (see also A.3.4)</p> <p>http://www-irm.sandia.gov/ADC/1handbook/class/ucinnpi.htm</p> <p><i>See also:</i> http://www-irm.sandia.gov/ADC/1handbook/class/cover008.htm - E11E32</p>	<p>Cover/title page – top block under SAND No.</p> <p>Cover and title page</p> <p>Top and bottom of each page</p> <p>Distribution is very limited. See DOE Directive.</p> <p><u>Note:</u> This may also apply to classified information.</p>	<p style="text-align: center;">Naval Nuclear Propulsion Information</p> <p>NOFORN: This document is subject to special export controls and each transmittal to foreign governments or foreign nationals may be made only with prior approval of the Naval Sea Systems Command.</p> <p style="text-align: center;">No Foreign Dissemination or NOFORN</p>

Name of Notice	Instructions	Sample
<p>Official Use Only (OUO) http://www-irm.sandia.gov/ADC/1handbook/class/uciouo.htm</p>	<p>Cover/title page – top block under SAND No.</p> <p>Cover (for documents to be excluded from Freedom of Information Act requests)</p> <p>Place at top and bottom of each page</p>	<p style="text-align: center;">Official Use Only</p> <p style="text-align: center;">OFFICIAL USE ONLY Contains _____ Information (Identify Category or Exemption Number)</p> <p style="text-align: center;">Department of Energy approval required prior to public release.</p> <p>Category Numbers (refer to CLASSIFICATION HANDBOOK FOR DERIVATIVE CLASSIFIERS AT SANDIA NATIONAL LABORATORIES)</p> <ol style="list-style-type: none"> 1. Classified National Security Information (NSI) – Never use for OUO 2. Circumvention of Statute 3. Statutory Exemption 4. Commercial/Proprietary 5. Deliberative Process 6. Personal Privacy 7. Law Enforcement <p style="text-align: center;">OFFICIAL USE ONLY or OUO</p>

Name of Notice	Instructions	Sample
<p>Patent Caution http://www-irm.sandia.gov/ADC/1handbook/class/ucipc.htm</p>	<p>Cover/title page – top block under SAND No.</p> <p>If <u>Patent Caution</u> is marked on R&A form, place these legends on front cover only.</p> <p>See web reference for additional markings</p> <p>Distribution list for a Patent Caution or Patent Interest should include:</p>	<p style="text-align: center;">Patent Caution</p> <p style="text-align: center;">PATENT CAUTION</p> <p>This document may reveal patentable subject matter. The information must not be divulged outside Sandia National Laboratories without the approval of the Patent and Licensing Office. Approved external recipients must not divulge the information to others.</p> <p>No further dissemination outside of the Government without the approval of the Patent & Licensing Center, Sandia National Laboratories.</p> <p>Further dissemination authorized to U.S. Government agencies only; other requests shall be approved by the originating facility or higher DOE programmatic authority.</p> <p>1 0161 Patent and Licensing Office, 11500</p>
<p>(Non-Sandia Co. name) Proprietary Information http://www-irm.sandia.gov/ADC/1handbook/class/uciprop.htm</p>	<p>Cover/title page – top block under SAND No.</p>	<p style="text-align: center;">(Non-Sandia co. name) Proprietary Information</p>

Name of Notice	Instructions	Sample
<p>(Non-Sandia co. name) Proprietary Information <i>(Continued)</i></p>	<p>Cover and title page</p> <p><u>Note:</u> The abstract should not include Non-Sandia Proprietary Information.</p> <p>Distribution: It is suggested that you DO NOT send reports containing Non-Sandia Proprietary Information to DOE/OSTI. If the report <u>does</u> go to DOE/OSTI, do <u>not</u> include the Non-Sandia Proprietary Information.</p> <p>At top and bottom of cover, title page, and back cover.</p>	<p>(Non-Sandia co. name) PROPRIETARY INFORMATION</p> <p>This technical data contains (Non-Sandia co. name) Proprietary Information furnished under contract or agreement (no., if applicable) between Sandia National Laboratories and (non-Sandia co. name) for the controlled release of the information. Disclosure outside the Government is not authorized without prior approval of the originator, or in accordance with provisions of 48 CFR 952.227 and 5 U.S.C. 552.</p> <p>Further dissemination authorized to U.S. Government agencies only; other requests shall be approved by the originating facility or higher DOE programmatic authority.</p> <p>(Non-Sandia co. name) PROPRIETARY INFORMATION</p>

Name of Notice	Instructions	Sample
<p>Protected Battery Information http://www-irm.sandia.gov/ADC/1handbook/class/ucibat.htm</p>	<p>Cover/title page – top block under SAND No.</p> <p>Cover only</p> <p><u>Note:</u> The abstract should not include Protected Battery Information.</p> <p>At top and bottom of cover, title page, and back cover.</p>	<p style="text-align: center;">Protected Battery Information</p> <p style="text-align: center;">PROTECTED BATTERY INFORMATION</p> <p>This product contains Protected Battery Information that was produced under Contract/CRADA No. _____ and is not to be further disclosed for a period of up to five years after the completion of the individual project, or not prior to <i>(date)</i>.</p> <p>Further dissemination authorized to the Department of Energy only; other requests shall be approved by the originating facility or higher DOE programmatic authority.</p> <p style="text-align: center;">PROTECTED BATTERY INFORMATION</p>
<p>Protected CRADA Information http://www-irm.sandia.gov/ADC/1handbook/class/ucicrada.htm</p> <p><i>Note: See site listed above for paragraph marking requirements.</i></p>	<p>Cover/title page – top block under SAND No.</p> <p>Cover and title page</p> <p>“Date” refers to the month and year that the most recent Protected CRADA Information was added to the report.</p> <p>For CRADA documents, add the following to the END of the housekeeping copies:</p>	<p style="text-align: center;">Protected CRADA Information</p> <p style="text-align: center;">PROTECTED CRADA INFORMATION</p> <p>This product contains Protected CRADA Information which was produced <i>(date)</i> under CRADA No. _____ and is not to be further disclosed for a period of _____ from the date it was produced except as expressly provided for in the CRADA.</p> <p>Further dissemination authorized to the Department of Energy only; other requests shall be approved by the originating facility or higher DOE programmatic authority.</p> <p>1 0115 CRADA Administration, 1323</p>

Name of Notice	Instructions	Sample
<p>Protected CRADA Information (Continued)</p>	<p><u>Note:</u> The abstract should not include Protected CRADA Information.</p> <p>At top and bottom of cover, title page, and back cover.</p>	<p style="text-align: center;">PROTECTED CRADA INFORMATION</p>
<p>Sandia Commercially Valuable Information http://www-im.sandia.gov/ADC/1handbook/class/uciscvi.htm</p>	<p>Cover/title page – top block under SAND No.</p> <p>Top and bottom of cover and title page</p> <p>Cover</p> <p><u>Note:</u> Sandia Commercially Valuable Information is Sandia’s version of Non-Sandia Proprietary Information. Distribution is ONLY to approved recipients.</p>	<p style="text-align: center;">Sandia Commercially Valuable Information</p> <p style="text-align: center;">Sandia Commercially Valuable Information</p> <p style="text-align: center;">SANDIA COMMERCIALY VALUABLE INFORMATION</p> <p>This document may reveal Sandia Commercially Valuable subject matter. The information must not be divulged outside Sandia National Laboratories without the approval of the Patent and Licensing Office. Approved external recipients must not divulge the information to others.</p> <p>Further dissemination authorized to U.S. Government agencies only; other requests shall be approved by the originating facility or higher DOE programmatic authority.</p>

Name of Notice	Instructions	Sample
<p>Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) http://www-irm.sandia.gov/ADC/1handbook/class/ucisbir.htm</p>	<p>Cover/title page – top block under SAND No.</p> <p>Cover and title page</p> <p>At top and bottom of cover, title page, and back cover.</p>	<p style="text-align: center;">SBIR Proprietary Information or Small Business Technology Transfer</p> <p style="text-align: center;">SMALL BUSINESS INNOVATION RESEARCH or SMALL BUSINESS TECHNOLOGY TRANSFER</p> <p style="text-align: center;">PROPRIETARY DATA Further dissemination authorized to U.S. Government agencies only; other requests shall be approved by the originating facility or higher DOE programmatic authority.</p> <p style="text-align: center;">SMALL BUSINESS INNOVATION RESEARCH PROPRIETARY DATA or SMALL BUSINESS TECHNOLOGY TRANSFER PROPRIETARY DATA</p>

Name of Notice	Instructions	Sample
<p>Unclassified Controlled Nuclear Information (UCNI)</p> <p>http://www-irm.sandia.gov/ADC/1handbook/class/uciunci.htm</p> <p><i>Note: Check the above listed site to determine whether alternate markings are applicable.</i></p>	<p>Cover/title page – top block under SAND No.</p> <p>Cover</p> <p>Cover, title page, and all internal pages top and bottom. Marking on interior pages may be limited to only those pages containing UCNI if more convenient.</p>	<p style="text-align: center;">Unclassified Controlled Nuclear Information</p> <p style="text-align: center;">UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION NOT FOR PUBLIC DISSEMINATION</p> <p>Unauthorized dissemination subject to civil and criminal sanctions under Section 148 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2168).</p> <p>Reviewing Official: <u>(Name and Organization)</u></p> <p>Date: _____</p> <p>Guidance Used: _____ (List all UCNI Guidance used)</p> <p style="text-align: center;">UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION or UCNI</p> <p>Caveat: UCNI matter may be marked with the caveat "DISSEMINATION CONTROLLED" when programmatic requirements place special dissemination or reproduction limitations on information controlled as UCNI. This marking indicates that reproduction, extraction of information, or redistribution of such matter requires the permission of the cognizant DOE program office. If this caveat is applied, the originator must ensure that the following marking is placed immediately above the matter's front marking:</p> <p style="text-align: center;">DISSEMINATION CONTROLLED</p> <p>Distribution authorized to DOE and DOE contractors only. Other requests shall be approved by the cognizant DOE program office, which is _____, before release.</p>

A.2.1 UCI Dissemination Caveats

Name of Notice	Instructions	Samples
<p>Internal Distribution Only (IDO)(preferred) OR Internal Use Only (IUO)</p>	<p>Cover/title page – top block under SAND No.</p> <p>Distribution list should begin as follows:</p> <p><u>Note:</u> A copy is not sent to DOE/OSTI.</p> <p>Provide a letter of justification addressed to the R&A Desk from the agency or the Sandia/DOE Project Office that requires the distribution be limited. Classification & Information Security Dept. 3132 (NM) or the Classification Officer in Dept. 8511 (CA) will review the letter and ensure the appropriateness of the use of the specified dissemination category.</p>	<p style="text-align: center;">Internal Distribution Only or Internal Use Only</p> <p>INTERNAL DISTRIBUTION ONLY: or INTERNAL USE ONLY:</p>

Name of Notice	Instructions	Samples
<p>Specified Dissemination</p>	<p>Cover/title page – top block under SAND No.</p> <p>Cover and title page</p> <p>Distribution list begins:</p> <p><u>Note:</u> Specified Dissemination reports are not sent to DOE/OSTI. Do not include DOE/OSTI on the distribution list.</p> <p>Provide a letter of justification addressed to the R&A Desk from the agency or the Sandia/DOE Project Office that requires the distribution be limited. Classification & Information Security Dept. 3132 (NM) or the Classification Officer in Dept. 8511 (CA) will review the letter and ensure the appropriateness of the use of the specified dissemination category.</p>	<p style="text-align: center;">Specified Dissemination</p> <p><u>Note:</u> Place under category in top block.</p> <p style="text-align: center;">SPECIFIED DISSEMINATION</p> <p>Only those recipients listed under “Distribution” are authorized to receive copies of this report. They are not authorized to disseminate the information further without permission from the originator or the agency that required the distribution restriction.</p> <p>SPECIFIED DISSEMINATION:</p>

A.3 Classified Documents

Classified documents have levels of classification: TOP SECRET (TS), SECRET (S), or CONFIDENTIAL (C). They also have categories of classification and other limitations: RD, FRD, or NSI. They can also have access restrictions such as NWD, Sigma numbers, CNWDI, NOFORN, and Specified Dissemination. These levels, categories, and access restrictors may be used in various combinations; for example, SRD CNWDI, SFRD Sigma 15, CRD, SNSI. Detailed guidance on handling classified documents can be found in the publications:

- ❑ *Classification Handbook for Authorized Derivative Classifiers and Sandia National Laboratories* (<http://www-irm.sandia.gov/ADC/1handbook/class/httoc.htm>),
- ❑ *Document Control Procedures Manual*. The 2001 version of the Document Control Procedures Manual has been modified substantially. The majority of the information is now located in two Corporate Process Requirements (CPRs). Only Chapter 3 on Accountable Documents remains in the Manual.

Chapter 3: CRYPTO/COMSEC, NATO, UK, TS, Sigma Documents and Removable Electronic Media (REM)
CPR 400.3.12. "Management of Classified Matter"
CPR 400.3.12.1 "Management of Classified Documents at SNL/NM and Remote Sites"

- ❑ *DOE Marking Handbook* (<http://www.directives.doe.gov/pdfs/doegeninfo/final/DOE-marking-handbook.pdf>)
- ❑ *Classification Handbook* (<http://www-irm.sandia.gov/ADC/handbook.html>).

Note: Only accountable classified documents (Top Secret, Sigma 14, Sigma Removable Electronic Media, NATO, UK, Crypto/Comsec, and ARG/NEST) at Sandia are required to have page numbers sequentially numbered. Other documents may be numbered sequentially or by chapter or section

A.3.1 Levels

All classified documents must be marked with the classification level.

Name of Notice	Instructions	Samples
<p>Top Secret</p>	<p>Place at top and bottom on front of each page in bold letters at least one eighth-inch high. RD and FRD internal pages (including title page) are marked with level and category. The back of the last page is marked top and bottom with level and category.</p> <p>Cover and title page:</p> <p>If you have a Top Secret document, contact Classification and Sensitive Information Dept. 3132 (NM) or Communication Arts Dept. 8528 (CA) for marking requirements.</p>	<p style="text-align: center;">TOP SECRET</p> <p>For Distributions to locations outside the DOE Complex, the following is included on the title page and cover:</p> <p>Dissemination and Reproduction Limitation – No further reproduction and/or dissemination of this document is permitted without the consent of the originator. *</p> <p>*Exact wording may vary depending on classification circumstances. Contact C/S Department if in doubt</p>

Name of Notice	Instructions	Samples
<p>Secret</p>	<p>Place at the top and bottom on front of each page in bold letters at least one-eighth-inch high. RD and FRD internal pages (including title page) are marked with level and category. The back of the last page is marked top and bottom with level and category.</p> <p>Cover and title page:</p>	<p style="text-align: center;">SECRET</p> <p>For Distributions to locations outside the DOE Complex, the following is included on the title page and cover:</p> <p>Dissemination and Reproduction Limitation – No further reproduction and/or dissemination of this document is permitted without the consent of the originator. *</p> <p>*Exact wording may vary depending on classification circumstances. Contact C/S Department if in doubt.</p>

Name of Notice	Instructions	Samples
<p>Confidential</p>	<p>Place at the top and bottom on front of each page in bold letters at least one-eighth-inch high. RD and FRD internal pages (including title page) are marked with level and category. The back of the last page is marked top and bottom with level and category.</p> <p>Cover and title page:</p>	<p style="text-align: center;">CONFIDENTIAL</p> <p>For Distributions to locations outside the DOE Complex, the following is included on the title page and cover:</p> <p>Dissemination and Reproduction Limitation – No further reproduction and/or dissemination of this document is permitted without the consent of the originator. *</p> <p>*Exact wording may vary depending on classification circumstances. Contact CIS Department if in doubt.</p>

A.3.2 Categories

In addition, various categories are required.

Name of Notice	Instructions	Samples
<p>Restricted Data (RD) http://www-irm.sandia.gov/iss/CPR_Figures/figTen.pdf</p>	<p>Cover/title page – top block under SAND No.</p> <p>Place on title page and cover, lower left corner.</p> <p>Level only on cover. Internal pages (including title page) carry level and category. Back of last page marked top and bottom with level and category.</p>	<p>Restricted Data</p> <p style="text-align: center;">RESTRICTED DATA</p> <p>This document contains Restricted Data as defined in the Atomic Energy Act of 1954. Unauthorized disclosure subject to Administrative and Criminal Sanctions.</p> <p><i>Note: Be sure to add the dissemination and reproduction statement associated with the level (see A.3.1).</i></p> <p>Classified by: _____</p> <p>Title/Org.: _____</p> <p>Date: _____</p> <p>Derived From: _____ (Name of Guide/Source Document)</p> <p>Date (Guide/Source Document): _____</p> <p>Ref.: Fig. 6.1, Classification Handbook for Derivative Classifiers at Sandia National Laboratories.</p>

Name of Notice	Instructions	Samples
<p>Formerly Restricted Data (FRD) http://www-irm.sandia.gov/iss/CPR_Figures/figTen.pdf</p>	<p>Cover/title page – top block under SAND No.</p> <p>Place on title page and cover.</p> <p>Level only on cover. Internal pages (including title page) carry level and category. Back of last page marked top and bottom with level and category.</p>	<p>Formerly Restricted Data</p> <p>FORMERLY RESTRICTED DATA Unauthorized disclosure subject to Administrative and Criminal Sanctions. Handle as Restricted Data in Foreign Dissemination, Section 144.b, Atomic Energy Act of 1954.</p> <p><i>Note: Be sure to add the dissemination and reproduction statement associated with the level (see A.3.1).</i></p> <p>Classified by: _____ Title/Org.: _____ Date: _____ Derived From: _____ (Name of Guide/Source Document) Date (Guide/Source Document): _____</p> <p>Ref.: Fig. 6.1, Classification Handbook for Derivative Classifiers at Sandia National Laboratories.</p>

A.3.3 Classified Access and Distribution Restrictors

Name of Notice	Instructions	Samples
<p>Nuclear Weapon Data (NWD)</p>	<p>Cover/title page – top block under SAND No.</p> <p>Note: A Sigma number must appear on any NWD report.</p> <p>Cover and title page of Sigma 14 or 15:</p> <p>Cover of Sigma 14:</p> <p>Check that all recipients are on the Sigma 14/15 access list maintained by Use Control Systems & Stockpile Support Dept. (NM) or International Security Dept. (CA). Applies to a minimum classification of Secret.</p>	<p>Nuclear Weapon Data • Sigma ____</p> <p>SIGMA 14 (or 15) Sensitive Use Control Information Access Restricted</p> <p>This document may not be reproduced or disseminated without approval of the originator or a Use Control Facility Coordinator.</p>

Name of Notice	Instructions	Samples
<p>Specified Dissemination</p>	<p>Cover/title page – top block under SAND No.</p> <p>Cover and title page</p> <p>Distribution list should begin as follows:</p> <p><u>Note:</u> Do not include DOE/OSTI on the distribution list. Reports are not sent to DOE/OSTI. Provide a letter of justification addressed to the R&A Desk from the agency or the Sandia/DOE Project Office that requires the distribution be limited. Classification & Information Security Dept. 3132 (NM) or the Classification Officer in Dept. 8511 (CA) will review the letter and ensure the appropriateness of the use of the specified dissemination category.</p>	<p style="text-align: center;">Specified Dissemination</p> <p style="text-align: center;">SPECIFIED DISSEMINATION Only those recipients listed under “Distribution” are authorized to receive copies of this report. They are not authorized to disseminate the information further without permission from the originator or the originator’s designated representative.</p> <p>SPECIFIED DISSEMINATION:</p>

A.4 Other Special Access Markings, Dissemination, and Reproduction Notices

See: <http://www-irn.sandia.gov/ADC/1handbook/class/cover008.htm - E11E32> or contact Sandia/NM or Sandia/CA Classification Office.

Marking	Instruction
Naval Nuclear Propulsion Information (NNPI)	<p>All information, classified or unclassified, concerning the design, arrangement, development, manufacture, testing, operation, administration, training, maintenance, and repair of the propulsion plants of Naval nuclear-powered ships and prototypes, including the associated shipboard and shore-based nuclear support facilities. Classified and Unclassified NNPI is designated:</p> <p>NOFORN This document is subject to special export controls and each transmittal to foreign governments or foreign nationals may be made only with the prior approval of the U.S. DOE.</p>
FURTHER DISSEMINATION ONLY AS AUTHORIZED BY GOVERNMENT AGENCY	This notation applies to documents whose further dissemination within the receiving contractor facility is restricted to persons authorized by the addressee. Dissemination outside the facility is prohibited without the approval of the contracting activity
REPRODUCTION REQUIRES APPROVAL OF ORIGINATOR	This notation applies to documents that may not be reproduced without the specific, written approval of the originator.
US ONLY US and (specify country(s)) ONLY	<p>Used to designate that limited amount of information that cannot be shared with any foreign government.</p> <p>Used to authorize the release of certain information beyond U.S. recipients.</p>
Foreign Government Information (FGI)	This notice is used on U.S. documents to ensure that information of foreign origin is not declassified prematurely or made accessible to nationals of a third country without the consent of the originator.

APPENDIX B: CHECKLISTS

B.1 Unclassified Checklist

Cover

Is all information on the cover correct?

Full Sandia address (Name, P.O. Box, City, ZIP code, etc.) required.

Check that the following cover items agree with the title page:

Report number(s)

Release information and print data

Report title

Author(s), full first name, middle and last name of each; check spelling carefully

Legends

Does cover include additional legends indicated on R&A form, but not required on title page (e.g., legends for Patent Caution and Export Controlled Information)?

Does cover have “Prepared by . . .” statement?

Legal Notice (Disclaimer)

Does legal notice appear on page 2?

Title Page

Does the title page have the following information?

Report number

Distribution limitation (Unlimited Release, Patent Caution, or other statement as indicated on R&A form)

Print date (month and year without comma)

Full title of report

Author(s), full first name, middle initial, and last name of each; check spelling carefully

Name of author(s)’ organization(s), but not the organization number(s)

Company name and address, including ZIP code (87185-#### for Sandia/NM)

Body of Report

Is page numbering correct? Check for the following:

- Page numbers in proper location
- No skips in sequence

Are the title page and the first page of body of report (the page with Introduction, Background, or similar headings) right-hand pages?

Do Contents listings (including figures and tables) agree with the text, and are page numbers listed correctly?

Are graphics of good, reproducible quality?

Distribution

Are names, organizations, and mail stops up to date?

Are housekeeping copies correct?

Send one electronic copy to the Technical Library and include two print copies on the distribution for the Technical Library.

WFO Distribution list: Authors should include a Distribution list with their Work For Others report that contains at least the “housekeeping” copies.

R&A

Does Review & Approval (R&A) Form include all approvals?

Have made the changes required by the R&A Desk?

REVISIONS	REPRINTS
<p>The word <i>Revised</i> appears after SAND# on cover and title page <i>unless</i> a new SAND# is used. The supersession statement, with a blank line above it, appears below the Printed (date) line on cover and title page. The statement reads the same whether it is for SANDxx-xxxx Revised or a new SAND#. It is: “Supersedes SANDxx-xxxx dated (month & year).”</p>	<p>On cover, the reprint date replaces the previous print date. On title page, <i>the previous print date is retained</i> and the reprint date is added below it. On distribution page, the original distribution is retained, followed by a blank line or two, then “Second (etc.) Printing, (date):” which is followed by another blank line and the new distribution. No housekeeping copies required.</p>

B.2 Classified Checklist

Cover

Is all the information on the cover correct?

Full Sandia address (Name, P.O. Box, City, ZIP code, etc.) required.

Is the cover numbered page 1?

Check that the following cover items agree with the title page:

Report number(s)

Nuclear Weapon Data & Sigma # or other limitations

Print date

Report title with classification in parentheses

Author(s), preferably first name, middle initial, and last name of each; check spelling carefully

Legends

Does cover include additional legends indicated on R&A form, but not required on title page (e.g., legends for Patent Caution and Export Controlled Information)?

If report is going to outside recipients, does the notice “Reproduction of this document . . .” appear as last item on cover?

Does cover have “Prepared by . . .” statement?

Does documentation block appear on cover? Is the total number of pages correct?

Legal Notice (Disclaimer)

Does legal notice appear on page number 2?

Title Page

Does the title page have the following information?

Report number

Limitation statement(s) as marked on the R&A form (such as Nuclear Weapon Data – Sigma)

Print date (month and year without comma)

Distribution Category (C-#)

Full title of report followed by classification [e.g., (U) or (SRD)]

Author(s), preferably first name, middle initial, and last name of each; check spelling carefully

Name of author(s)’ organization(s), but not the organization number(s)

Company name and address, including ZIP code (87185-##### for Sandia/NM)

Does classification [e.g., (U) or (SRD)] follow the word *Abstract*?

Are all classification markings and legends included?

Body of Report

Is page numbering correct? Check for the following:

- Page numbers in proper location
- No skips in sequence
- If Secret or Confidential, no double page numbers, and all blank pages state *Intentionally Left Blank*
- Is the last page of report (which should be a blank left-hand page) numbered and does it say *Intentionally Left Blank*?
- Has the back of the last page been marked properly, if required?

Are the title page and the pages with the Introduction, Contents, Executive Summary, and similar headings right-hand pages?

Do Contents listings (including figures and tables) agree with the text, and are page numbers listed correctly?

Are graphics of good, reproducible quality?

Distribution

Are names, organizations, and mail stops current?

Are housekeeping copies correct?

R&A

Does Review & Approval (R&A) Form include all approvals?

REVISIONS	REPRINTS
<p>The word <i>Revised</i> appears after SAND# on cover and title page <i>unless</i> a new SAND# is used. The supersession statement, with a blank line above it, appears below the Printed (date) line on cover and title page. The statement reads the same whether it is for SANDxx-xxxx Revised or a new SAND#. It is:</p> <p>“Supersedes SANDxx-xxxx dated (month & year).”</p>	<p>On cover, the reprint date replaces the previous print date. On title page, <i>the previous print date is retained</i> and the reprint date is added below it. On Distribution page, the original distribution is retained, followed by a blank line or two, then “Second (etc.) Printing, (date):” which is followed by another blank line and the new distribution. No housekeeping copies required.</p>

APPENDIX C: SAND REPORT SAMPLE

The following sample was excerpted from an actual report and modified to present all sections that might appear. The boxes at the bottom of each page contain brief writing instructions about what to include in each section.

SANDIA REPORT

SAND2002####
Unlimited Release
Printed August 2002

**The Velocity Interferometer System
for Any Reflector
Mod B, Push-Pull with Double-Delay-Leg
and Dual VISAR Modes**

O. B. Crump, Jr., P. L. Stanton

Prepared by
Sandia National Laboratories
Albuquerque, New Mexico 87185 and Livermore, California 94550

Sandia is a multiprogram laboratory operated by Sandia Corporation,
a Lockheed Martin Company, for the United States Department of
Energy under Contract DE-AC04-94AL85000.

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Sandia National Laboratories

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Facsimile: (703)605-6900
E-Mail: orders@ntis.fedworld.gov
Online order: <http://www.ntis.gov/ordering.htm>



A report with a Distribution Limitation would say that at the top and bottom of the page in at least 1/8 inch bold type

SAND 2002 - #####
Unlimited Release
Printed August 2002

SAND Numbers are assigned at the end of Review and Approval

The Velocity Interferometer System for Any Reflector

Mod B, the Push-Pull With Double-Delay-Leg and Dual VISAR Modes

Include organization name, but not number

O. B. Crump, Jr., and P. L. Stanton
Explosive Projects and Diagnostics Division
Sandia National Laboratories
P. O. Box 5800
Albuquerque, NM 87185-1914

See Figure 5-7 for multiple authors

Main author's mail stop

Abstract

The Velocity Interferometer System for Any Reflector (VISAR) is the modern standard for measurement of shock phenomena. This report describes the original VISAR and its evolution into the current Mod B version built for Sandia's Explosive Projects and Diagnostics Division 2514. The Mod B system incorporates the push-pull signal processing introduced in Mod A to reduce sensitivity to target self-light and simplify data reduction, and it introduces the use of two push-pull VISARs to obtain two modes of operation. In the Dual VISAR mode, each VISAR is used independently to track separate targets or separate points on a common target. In the Double-Delay-Leg mode, both delay legs are used to track the motion of a single point.

Abstract:

- Sandia requires that all SAND Reports contain an abstract on the title page. Exceptions are rare.
- In a classified report, keep the abstract unclassified whenever possible.
- Use "key" words to support library searches (information retrieval).
- The purpose of an abstract is to explain the essence of your report to the reader.
- The abstract should be kept short—under 200 words whenever possible.
- It helps to have other people review your abstract.

Abstracts are of two types: *informative* and *descriptive*. The informative abstract is preferred.

Continued in bottom box on next page...

Page number does not appear on an unclassified report. It does appear on a classified report. The cover and its back are page 1 and 2. The title page is page 3.

Acknowledgment

The authors thank R. E. Hollenbach of the Thermomechanical and Physical Division for the very helpful conversation regarding his earlier work with circuit designs for photomultiplier tubes.

Acknowledgment:

Often an acknowledgment is the only recognition given someone who has made an important technological contribution to your work. For this reason it is an important part of the report. Give the contributor's name and tell briefly what the contribution was: "John Doe for his skill in fabricating the special testing equipment." Sandia's policy on acknowledgments was outlined by R. S. Claassen, 8000, in his memo "Publications—Title and Acknowledgments," December 18, 1984:

Acknowledgment of work by others, when appropriate, is an obligation of the author of a Sandia report or a journal paper. It is not necessary, however, to acknowledge work which was performed as a normal part of a work assignment. The important acknowledgment is for professional level contributions. Conceptual level inputs, such as innovative thoughts or original suggestions for an approach to the problem, rank first. Considerable effort at an advanced level, such as analysis of experimental data or refinement of experimental techniques, deserves credit. Recognition should be given to an assistant who has contributed to the work through skill and careful experimentation. Acknowledgments should be stated in a simple, declarative way. Flowery language and admissions of indentured servitude are inappropriate.

Abstract (continued from title page):

Informative abstract. In an informative abstract, you should—

- Explain the most important points of the report to give the reader a clear overview of the research, experiment, test, or other activity being reported. The well-written informative abstract may contain all the information certain readers need; other readers may find they want to explore the entire report.
- State the study's purpose, its objectives, or the subject treated. Classify the scope of your treatment as preliminary, brief, comprehensive or exhaustive, experimental, theoretical, or some other appropriate term.
- State the method of attack, parameters, and equipment involved, especially if they are new or unique.
- Report results (both expected and unexpected), their degree of accuracy, and their significance.
- Note if related or follow-up work is needed or planned.
- Insert no illustrations, charts, tables, references, or footnotes; refer to no specific figures or paragraphs.
- Write in full sentences, in the active voice whenever possible.

Descriptive abstract. In a descriptive abstract you outline the organization of your report but do not explain its major ideas. (It is essentially an extended table of contents and is best used for a manual, tutorial, or other reference material.)

Contents

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Optical Fiducial	xx
Data Acquisition Instrumentation	xx
Example Data	xx
Discussion of Technique	xx
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These sections of the published report are omitted because they serve no illustrative purpose.

This report did not have an appendix. If it did, the title would appear here.

Figures

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7 Response of Photomultiplier to a Narrow Optical-Plus Input	xx

These figures were omitted because they serve no illustrative purpose.

(Continue listing all figures in the report)

Tables

This report does not have tables. If you have tables, list them here, using the format for figures.

Contents page:

- Include a Contents page if the report is longer than 15 pages; if the report is shorter, a Contents page is not required, although you may choose to include one.
- List major headings. Also include level two and three headings if necessary. Headings are the major road signs for the reader, so include the levels that serve the reader. List the headings exactly as they appear in the text (but omit parenthetical material).
- Include a list of figures and a list of tables unless you have fewer than three figures or three tables.

Preface

This report does not contain a preface. If you have a preface or a foreword, place it here.

Preface and Foreword:

Most SAND Reports do not require a preface or a foreword. However, if you want to give the reader background information that is not appropriate to include in the text, or if someone else wants to write a prefacing statement, place it here.

The foreword is usually a prefacing statement made by someone other than the author. (Always check the spelling of Foreword; it is not "Forward," one of the more common oversights in writing.)

Sometimes acknowledging statements are included in the preface, making a separate acknowledgment section unnecessary.

Summary

This report does not contain an executive summary.
If you have a summary, place it here.

Executive summary:

- An executive summary is a complete but concise recapitulation of the major points of the entire report. The summary may provide some readers with all the information they need; it will brief others so that they will have a basic concept of the subject before they start reading the report.
- Often, especially in short reports, the abstract contains enough information to eliminate the need for an executive summary (as is the case in this report).
- The length varies according to the content and the audience. If you keep in mind the function of your summary—to briefly recapitulate the major points of the report—the length should be self-determining.
- Steps in developing a summary—
 1. Review your report and note major points, significant facts, important considerations, and major conclusions.
 2. List key phrases or sentences you want to include.
 3. Compress information from steps 1 and 2, and coherently connect the ideas.
 4. Have other people review your summary for accuracy, completeness, and proper emphasis.

Nomenclature

BS	beam splitter	
PBSC	polarizing beam-splitting cube	
PMT	photomultiplier	
PZT	piezoelectric translator	
VISAR	Velocity Interferometer System for Any Reflector	
c	velocity of light	} — Group terms according to functions and leave a space between the groups.
C	total of light velocity	
H	total thickness of elements	
d	correction for refractive index with window	
Dm/n	a correction term required when a window material with a stress-dependent refractive index is used	

Acronyms, initialisms, and special terms:

When your report contains many acronyms, initialisms, or special terms, list them in a special section. Give the sections an appropriate title: nomenclature, acronyms, special terms, or other appropriate words.

Treatment of items in the listing:

- Capitalize the expanded terms as you would in text; use capitals only when they are required by the standard rules of grammar — NOT to indicate which letters make up the acronym.
- Group terms in the following order, with a blank line between the groups: acronyms, abbreviations, and general terms; mathematical English letters or terms; and mathematical Greek terms.
- When a letter in the listing appears as both capital and lower case, list the lower case terms first.
- The generic title “nomenclature” includes acronyms and initialisms, symbols, and special terms.

Treatment of items in the text:

- At first use in text, enter the phrase as it usually appears (this is the “expanded” term) followed by the abbreviated form in parentheses. In a long report, you may want to refresh the reader’s memory in a later section by showing both the acronym and its expansion.
- For an isolated use of the phrase much later in the text, simply use the expanded term.

Pluralizing abbreviations:

Add “s” as in PMTs. Use the apostrophe only when not doing so might cause confusion, as in K_d ’s.

Using the correct indefinite article:

The choice of an indefinite article (*a* or *an*) is based on pronunciation—“a” before consonant sounds and long “u” sounds; “an” before vowel sounds. Examples: an ICBM, a FROG, an FFT, a FORTRAN program, an ADNET.

The Velocity Interferometer System for Any Reflector

Mod B, the Push-Pull With Double-Delay-Leg and Dual VISAR Modes

Introduction

The modern standard for measuring shock phenomena is the Velocity Interferometer System for Any Reflector (VISAR).¹ The VISAR uses coherent, single-frequency light from a laser source to measure the motion of a diffuse, reflective surface. The Doppler shift in the reflected light is detected in a modified Michelson interferometer. The inherent sensitivity, resolution, and frequency response of such a system are essentially limited only by the bandwidth of the optical detectors and recording equipment.

This report describes the development and operation of the VISAR Mod B Push-Pull with Double-Delay-Leg and Dual VISAR modes.

Background

The VISAR development started with the conventional version originated by L. M. Barker and R. E. Hollenbach of Division 1534 and progressed through the Push-Pull VISAR modification (Mod A) made by W. F. Hensing of Los Alamos National Laboratories.^{1,2} The early 1970s experiments of J. E. Kennedy of Division 5131 and the author first used the double-delay-leg technique incorporated in the current Mod B.³ Each version resulted from a new need. To establish a background for understanding the current version, each of the earlier versions is discussed.

Introduction:

The function of an introduction is to inform the reader of the following:

- The exact *subject* of the report. Try to present a key idea in the first sentence or two.
- The exact *purpose*—why the report is being written; why the work is important.
- The *scope*—the “range” of the subject matter, that is, the detail in which it is discussed (and sometimes in what detail it is not discussed). The scope may require a section of its own.
- The *plan of development*—how you have organized your report. This information should appear near the end of your introduction. (This does not mean that you name each section. Rather it means that you explain the order in which you develop the report; be careful that your explanation is given in the same sequence in which you present the development in the text.)
- Identity of audience to whom you are directing the report and how the information will be used by this audience.
- A brief explanation of any outside sources you are using.
- Background information the readers need to understand the report better. The background sometimes may be long enough and important enough to require a section of its own, as in this example report.

The *length* of your introduction is determined by what is needed to set the stage for your readers to readily get a clear concept of your objective. It may be only a few sentences or it may be quite long; include only what is necessary.

The Conventional (Original) VISAR

The conventional VISAR was developed by Barker and Hollenbach primarily to measure free-surface velocities of materials in gun-impact experiments.¹ In this type of experiment, projectile velocities are very accurately measured (by other means), and well-defined experiments can be performed with results that are predictable in many respects. Uncertainties in the number of missed fringes at a shock jump may be resolved by using the known impact velocity and the impedances of the impactor and target materials.

The features of a conventional VISAR are shown in Figure 1. A diffused beam containing the target Doppler information is returned to the VISAR table, passing through a telescope to reduce the beam diameter. A small part of the light beam is split off to an intensity monitor, and the remainder is routed to the main beam splitter of the interferometer. Half of the signal is sent through a reference leg and half through the delay leg, whose medium is air and fused silica.

This beam is delayed by a time, t , caused by the difference in the index of refraction of the fused silica in the delay leg and the air in the reference leg. The beams are reflected and recombined at the main beam splitter, where interference is developed. A phase shift is produced in the recombined beam by a change in the target velocity. When the beam recombines, half of the recombined beam propagates in two directions away from the beam splitter, and interference phase information is present in each beam. One of the recombined beams is routed to the photo detectors, while the other beam is wasted. A polarizing beam-splitting cube splits the beam into two quadrature components: S and P polarized light beams.

Developing the text:

Decide before your first draft what your primary order of development will be. Making this decision at the very beginning will help you write a closely knit report. Here are suggested methods for organizing particular types of material.

Method	Appropriate Use
Sequential	to write a set of instructions or procedures.
Chronological	to emphasize the time element.
Comparison	to write about a new topic that is similar to others (as in this report).
Division and classification	to describe a device that can be broken into its component parts.
Spatial	to describe the physical appearance of a device, going from top to bottom, outside to inside, and so on.
General to specific	to write about, say, a software program, starting with the general function of the program, going to the larger routines and their functions, then the smaller routines and their functions.
Specific to general	to do the reverse of the previous method.
Decreasing order of importance	follows the same logic as general to specific.
Increasing order of importance	follows the same logic as specific to general.

Different methods in the same report:

Remember that different sections may require different types of development. For example, background may be chronological, and product description may be spatial. Use the same method for similar topics.



Figure 1. The Original VISAR Model (L. M. Barker and R. E. Hollenbach, Laser Interferometer for Measuring High Velocities of Any Reflecting Surface in J Appl Phys, Vol 43, No. 11, Nov 1972.).

Graphics, headings, and reference citations:

Because these topics occur throughout your report, they are combined here for convenience.

Figures and tables (graphics):

- Relate your graphics clearly to the text. Use consistent terminology in both. Use graphics only to serve a specific purpose—not as fillers.
- Use concise figure captions and table titles that clearly describe the content.
- Do not use duplicate captions or titles. If a figure or table is not different enough to deserve a different caption or title, maybe you do not need to include it.
- Call out all figures and tables in the text, and call them out sequentially.
- If a figure is taken from a published non-Sandia source, obtain written permission from the previous publisher. Then cite that source in your graphics caption, or above the caption, so that the original source will “travel” with the graphic if someone else decides to use your version of it. Use words such as “Reproduced with permission from (and give the source information, including the publisher).” See pages 102 and 221-224.

Headings:

- Use headings to flag the logical divisions of your text so the reader can (a) easily understand your method of developing the material and (b) locate a subject quickly.
- Make headings descriptive, brief, and parallel in structure.

Reference citations:

- Cite references by sequential numbering or the author-date system. Sequential-number citations should either be superscript numbers or on the line and bracketed: . . . was reliable.²; . . . was reliable [2]. Author-date citations should appear in parentheses on the line in the following form: (Smith 1992), (Jones et al. 1991), (Smith 1992, Kirkpatrick 1986a and 1986b). Kirkpatrick had two publications in one year, so to distinguish the citations they are labeled “a” and “b” and are listed that way in the reference list.
- If a superscript citation could be misinterpreted as a mathematical exponent, as in “a total of 36 ft²,” write “a total of 36 ft (Reference 2)” or “a total of 36 ft (Ref. 2).” If the reference itself forms part of the sentence, write (for example) “Reference 3 contains diagrams of the unit.”

The target velocity information is contained in the phase-time history of each of the S and P polarized light beams. These beams are monitored by photomultiplier tubes (PMTs). The P polarized light is Data 1, and the S polarized light is Data 2. The recorded output of the PMTs is used to determine the target velocity, which is related to the instantaneous phase, ϕ , by the equation

$$u(t - \tau / 2) = \frac{\lambda \phi(t)}{2\tau(1 + \Delta v / v)} \frac{1}{1 + \delta}$$

where

- τ = delay time in the interferometer
- λ = the source wavelength
- $\Delta v/v$ = a correction term required when a window material with a stress-dependent refractive index is used
- δ = a correction for refractive index with wavelength⁴

The amplitude (envelope) of the phase information may change during an experiment because the target surface conditions may be altered by the shock wave. Thus, in conventional VISAR, measurement of instantaneous phase involves comparison of each data signal with the instantaneous overall amplitude or intensity.

Equation (1) may be solved for the velocity per fringe (VPF):

$$VPF = \frac{u(t - \tau / 2)}{\phi(t)} = \frac{\lambda}{2\tau(1 + \Delta v / v)} \frac{1}{1 + \delta}$$

Equations and mathematical English:

- If you hand write your equations in the draft, use ink and form the characters carefully, especially Greek and other mathematical symbols. Circle any confusing term at first use and write in the margin what it is. Examples are ρ and ρ (rho and pee); η and n (eta and en); δ and ∂ (delta and partial derivative); χ and x (chi and ex). Write superscripts and subscripts so that the typist or others can easily distinguish them.
- Write any special instructions to the typist on a cover sheet or at the appropriate place in the draft. If you have a strong preference as to where the equations are to be broken at line endings, write instructions. Examples: after equals sign, before operators, no breaks immediately before dx, and so on. Because redoing equations is very time-consuming, any guidance you can give in your draft to help the typist get it right the first time is well worth the effort. The typist is not a mathematician and so must rely solely on the clarity of your draft.
- Punctuation of equations is a personal choice. The smoothest style is to punctuate them according to their function in the sentence. However, some authors prefer to use no punctuation (referred to as “open” style). Indicate your preference at the beginning of your draft, or at the beginning of the equations, so the typist will be certain about the style. Be consistent, whatever your choice. Indented paragraphs in a document with lots of equations allow you to distinguish when an equation occurs in the middle of a paragraph (no indent there).

Conclusion

The Mod B Push-Pull VISAR with Double-Delay-Leg or Dual VISAR mode has proved to be a very useful tool in our diagnostic lab. With the 400-MHz data-recording capabilities, we have been able to characterize numerous flying foil configurations using both the Dual VISAR and Double-Delay-Leg modes without missing fringes caused by frequency response limitations. We have also been able to obtain very reproducible data from similar experiments.

Closure:

- End your report with a summary, a statement of the value of the report, a recommendation, or whatever concluding remarks are appropriate.
- Make some significant point, an indication of possible future use, or some other remarks that keep the readers from feeling they have simply been dropped.
- The current trend is to place the summary at the front of the report, where a busy person can quickly get a "thumbnail" concept. If your summary has been placed at the front of the report, use some other concluding paragraph to tie off the report.

References

- ¹L. M. Barker and R. E. Hollenback, Laser Interferometer for Measuring High Velocities of Any Reflecting Surface, *J. Appl. Phys.*, vol 43, no. 11, Nov. 1972.
- ²W. F. Hensing, Velocity Sensing Interferometer (VISAR) Modification, *Rev. Sci. Instrum.*, vol 50, no. 1, Jan. 1979.
- ³J. E. Kennedy, Org. 5131, Sandia National Laboratories, private communication.
- ⁴J. R. Asay, Shock and Release Behavior in Porous 1100 Aluminum, *J. Appl. Phys.*, vol 46, no. 1, Jan. 1975).
- ⁵J. E. Kennedy and O. B. Crump, Jr., SNL, unpublished results.
- ⁶R. W. Barnard, DATACO - Digitizer Control and Data Acquisition Program, SAND87-2029. Sandia National Laboratories, in process, Albuquerque.

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APPENDIX

(Place Title Here)

**This sample report does not contain an appendix.
If you have an appendix, place it after the References.**

Appendixes:

Use an appendix to include material that supplements the report but is not appropriate to include in the report. The report itself should not suffer if the appendix is removed. Examples of supplemental material appropriate for an appendix are equations, related correspondence, and related tests or experiments.

Note: Give credit to the person who authored an appendix if that person is not one of the authors of the main report.

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- If you have more than one appendix, use a letter suffix with each. Example: APPENDIX B, Computer Program XYZ.
- Call out each appendix in the text, in alphabetical order. Examples are "... described in the Appendix"; "... described in Appendix A."
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